F 6

```
RRRRRRRRRRRR     TTTTTTTTTTTTTTT  PPPPPPPPPPPP        AAAAAAAAA     DDDDDDDDDDDD
RRRRRRRRRRRR     TTTTTTTTTTTTTTT  PPPPPPPPPPPP        AAAAAAAAA     DDDDDDDDDDDD
RRRRRRRRRRRR     TTTTTTTTTTTTTTT  PPPPPPPPPPPP        AAAAAAAAA     DDDDDDDDDDDD
RRR         RRR        TTT        PPP         PPP  AAA         AAA  DDD         DDD
RRR         RRR        TTT        PPP         PPP  AAA         AAA  DDD         DDD
RRR         RRR        TTT        PPP         PPP  AAA         AAA  DDD         DDD
RRR         RRR        TTT        PPP         PPP  AAA         AAA  DDD         DDD
RRR         RRR        TTT        PPP         PPP  AAA         AAA  DDD         DDD
RRR         RRR        TTT        PPP         PPP  AAA         AAA  DDD         DDD
RRRRRRRRRRRR           TTT        PPPPPPPPPPPP     AAA         AAA  DDD         DDD
RRRRRRRRRRRR           TTT        PPPPPPPPPPPP     AAA         AAA  DDD         DDD
RRRRRRRRRRRR           TTT        PPPPPPPPPPPP     AAA         AAA  DDD         DDD
RRR   RRR              TTT        PPP              AAAAAAAAAAAAAAA  DDD         DDD
RRR   RRR              TTT        PPP              AAAAAAAAAAAAAAA  DDD         DDD
RRR   RRR              TTT        PPP              AAAAAAAAAAAAAAA  DDD         DDD
RRR      RRR           TTT        PPP              AAA         AAA  DDD         DDD
RRR      RRR           TTT        PPP              AAA         AAA  DDD         DDD
RRR      RRR           TTT        PPP              AAA         AAA  DDD         DDD
RRR         RRR        TTT        PPP              AAA         AAA  DDDDDDDDDDDD
RRR         RRR        TTT        PPP              AAA         AAA  DDDDDDDDDDDD
RRR         RRR        TTT        PPP              AAA         AAA  DDDDDDDDDDDD
```

```
**FILE**ID**RSXRT                                     E 2
```

```
RRRRRRRR      SSSSSSSS  XX      XX  RRRRRRRR    TTTTTTTTTT
RRRRRRRR      SSSSSSSS  XX      XX  RRRRRRRR    TTTTTTTTTT
RR      RR  SS          XX      XX  RR      RR      TT
RR      RR  SS          XX      XX  RR      RR      TT
RR      RR  SS            XX  XX    RR      RR      TT
RR      RR  SS            XX  XX    RR      RR      TT
RRRRRRRR      SSSSSS        XX      RRRRRRRR        TT
RRRRRRRR      SSSSSS        XX      RRRRRRRR        TT
RR  RR              SS    XX  XX    RR  RR          TT
RR  RR              SS    XX  XX    RR  RR          TT
RR    RR            SS  XX      XX  RR    RR        TT          ....
RR    RR            SS  XX      XX  RR    RR        TT          ....
RR      RR  SSSSSSSS    XX      XX  RR      RR      TT          ....
RR      RR  SSSSSSSS    XX      XX  RR      RR      TT          ....

LL            IIIIII      SSSSSSSS
LL            IIIIII      SSSSSSSS
LL              II      SS
LL              II      SS
LL              II      SS
LL              II      SS
LL              II        SSSSSS
LL              II        SSSSSS
LL              II              SS
LL              II              SS
LL              II              SS
LL              II              SS
LLLLLLLLLL    IIIIII    SSSSSSSS
LLLLLLLLLL    IIIIII    SSSSSSSS
```

```
RSX
V04

; F

;
```

```
0 MODULE  RSXRT (
0         IDENT = 'V04-000',
0         ADDRESSING_MODE(EXTERNAL=GENERAL)
0                 ) =
1 BEGIN
1 !
1 !****************************************************************************
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1 !*                                                                          *
1 !****************************************************************************
1
1 !++
1 !
1 ! FACILITY:  REMOTE TERMINAL SUPPORT
1 !
1 ! ABSTRACT:
1 !       THIS PROGRAM SUPPORTS THE RSX-11M REMOTE TERMINAL PROTOCOL.
1 !
1 !
1 ! ENVIRONMENT:
1 !
1 !       VAX/VMS Operating System
1 !
1 !--
1 !
1 !
1 ! AUTHOR:  W M CARDOZA,  CREATION DATE:  2-JAN-80
1 !
1 ! MODIFIED BY:
1 !
1 !       V03-003 WMC0002         Wayne Cardoza   28-Feb-1984
1 !               Fix check for cancel-all.
1 !
1 !       V03-002 MHB0081         Mark Bramhall   1-Sep-1982
1 !               Use IO$_TTYREADALL instead of IO$_READPBLK.
1 !
1 !       V03-001 WMC0001         Wayne Cardoza   6-May-1982
1 !               Check for valid CURRENTIO in CANCEL.
1 !
```

```
;     58            0058   1 !**
;     59            0059   1 LIBRARY 'SYS$LIBRARY:LIB';
;     60            0060   1 LIBRARY 'SYS$LIBRARY:CLIMAC';
;     61            0061   1 !
;     62            0062   1 !
;     63            0063   1 !
;     64            0064   1 FORWARD ROUTINE
;     65            0065   1         GETTERMCHAR: NOVALUE,
;     66            0066   1         GETBUF,
;     67            0067   1         FREEBUF,
;     68            0068   1         INDREAD,
;     69            0069   1         LINKRECV: NOVALUE,
;     70            0070   1         WRITE: NOVALUE,
;     71            0071   1         TERMMBXMSG: NOVALUE,
;     72            0072   1         READ: NOVALUE,
;     73            0073   1         CNTRLCAST: NOVALUE,
;     74            0074   1         CNTRLYAST: NOVALUE,
;     75            0075   1         READSINGLE: NOVALUE,
;     76            0076   1         ATTACH: NOVALUE,
;     77            0077   1         RSXRT: NOVALUE,
;     78            0078   1         LINKMBXMSG: NOVALUE,
;     79            0079   1         BROADCAST: NOVALUE,
;     80            0080   1         READPROMPT: NOVALUE,
;     81            0081   1         QIODONE: NOVALUE,
;     82            0082   1         CANCEL: NOVALUE,
;     83            0083   1         TERMINATOR,
;     84            0084   1         UNSUPPORTED: NOVALUE,
;     85            0085   1         MAPMODIFIER,
;     86            0086   1         LINKWRTDONE: NOVALUE,
;     87            0087   1         NEXTIO: NOVALUE,
;     88            0088   1         UNSDATENBL: NOVALUE,
;     89            0089   1         ONECHAR: NOVALUE;
;     90            0090   1 !
;     91            0091   1 !
;     92            0092   1 MACRO
;     93            0093   1         RTP_BUF = BLOCK[32] FIELD(RTP_FIELDS) %,
;     94          M 0094   1         QUIT =  BEGIN
;     95          M 0095   1                 $SETAST (ENBFLG = 0);   ! STOP EVERYTHING
;     96          M 0096   1                 WAKEFLAG = 1;
;     97          M 0097   1                 $WAKE();                ! WAKE UP BASE LEVEL
;     98          M 0098   1                 RETURN;
;     99            0099   1                 END %,
;    100          M 0100   1         QUIT_ON_ERROR = IF (.RETSTATUS AND 1) EQL 0  THEN
;    101            0101   1                 QUIT %;
;    102            0102   1 !
;    103            0103   1 ! EQUATED SYMBOLS:
;    104            0104   1 !
;    105            0105   1 LITERAL
;    106            0106   1         ! FUNCTION CODES
;    107            0107   1         RF_NOP = 0,                     ! NOP
;    108            0108   1         RF_SSD = 1,                     ! CONFIGURATION
;    109            0109   1         RF_DIS = 2,                     ! DISCONNECT
;    110            0110   1         RF_WTD = 3,                     ! WRITE DATA
;    111            0111   1         RF_RDD = 4,                     ! READ DATA
;    112            0112   1         RF_WRD = 5,                     ! READ WITH PROMPT
;    113            0113   1         RF_UNS = 6,                     ! UNSOLICITED INPUT DISABLE/ENABLE
;    114            0114   1         RF_RSC = 7,                     ! READ SINGLE CHARACTERS
```

```
1                 RF_KIL = 8,                ! CANCEL I/O
1                 RF_ATT = 9,                ! ATTACH
1                 RF_GTC = 10,               ! GET TERMINAL CHARACTERISTICS
1                 RF_STC = 11,               ! SET TERMINAL CHARACTERISTICS
1                 RF_ECR = 12,               ! EXCEPTION CONDITION
1                 ! MODIFIERS
1                 RM_WBN = 1,                ! WRITE BINARY
1                 RM_WBT = 2,                ! BROADCAST
1                 RM_RBN = 4,                ! READ BINARY
1                 RM_RTC = 8,                ! READ TERMINATES ON CONTROL CHARACTERS
1                 RM_RNE = 16,               ! READ NO ECHO
1                 RM_RTO = 32,               ! RESET TIME OUT ON EACH CHARACTER
1                 RM_DET = 128,              ! DETACH TERMINAL
1                 RM_NWC = 128,              ! NO WRITE COMPLETE STATUS
1                 RM_TUI = 128,              ! TERMINATE UNSOLICITED INPUT
1                 RM_TSC = 128,              ! TERMINATE SINGLE CHARACTER INPUT
1                 ! FLAGS
1                 RM_PRI = 2,                ! PROCESS REQUEST IMMEDIATELY
1                 RM_CAO = 4,                ! CANCEL ABORT OUTPUT
1                 ! STATUS CODES
1                 RS_SFC = 0,                ! SUCCESS
1                 RS_FPE = 1,                ! FUNCTION PROCESSING ERROR
1                 RS_UFC = 2,                ! UNSUPPORTED FUNCTION
1                 RS_IPF = 3,                ! ILLEGAL PROTOCOL FUNCTION
1                 RS_IPD = 4,                ! ILLEGAL PROTOCOL DATA
1                 RS_ICF = 5,                ! ILLEGAL CHARACTERISTICS FUNCTION
1                 ! TERMINAL CHARACTERISTIC CODES
1                 RC_HHT = 18,               ! HARDWARE TABS
1                 RC_NEC = 19,               ! NO ECHO
1                 RC_TTP = 22,               ! TERMINAL TYPE
1                 RC_SCP = 23,               ! CRT
1                 RC_BIN = 24,               ! BINARY MODE
1                 RC_TPL = 28,               ! PAGE LENGTH
1                 RC_MAX = 28,               ! ********* KEEP THIS THE MAXIMUM *********
1                 ! EXCEPTION CONDITION CODES
1                 RE_SAR = 0;                ! SYSTEM ATTENTION REQUEST
1 FIELD
1                 RTP_FIELDS =               ! REMOTE TERMINAL PROTOCOL
1                         SET
1                         RTP_LNK = [0,0,32,0],   ! QUEUE LINK WORDS
1                         RTP_LN2 = [1,0,32,0],
1                         RTP_IOS = [2,0,16,0],   ! IOSB
1                         RTP_IOC = [2,16,16,0],  ! I/O COUNT
1                         RTP_IO2 = [3,0,32,0],
1                         RTP_FNC = [4,0,8,0],    ! FUNCTION CODE
1                         RTP_MOD = [4,8,8,0],    ! FUNCTION MODIFIER BITS
1                         RTP_FLG = [4,16,8,0],   ! FUNCTION FLAGS
1                         RTP_STS = [4,24,8,0],   ! RETURN STATUS
1                         RTP_IDN = [5,0,8,0],    ! IDENTIFIER
1                         RTP_RSV = [5,8,8,0],    ! RESERVED, MBZ
1                         RTP_RCT = [5,16,16,0],  ! RECEIVE BYTE COUNT
1                         RTP_TCT = [6,0,16,0],   ! TRANSMIT BYTE COUNT
1                         RTP_DAT = [6,16,32,0]   ! DATA
1                         TES;
1 !
1 !
1 !
```

```
1 OWN
1         NAMEIOSB:       VECTOR[4,WORD],
1         VMSCONFIG:      INITIAL(PLIT BYTE(RF_SSD,1,0,0,  ! CONFIGURATION MSG
1                                 WORD(4,2),               ! PROTOCOL SUPPORTED
1                                 WORD(128),               ! BUFFER SIZE
1                                 2,1,                     ! LINE-FEED PREFIXING
1                                 3,1,                     ! SINGLE CHAR INPUT
1                                 5,1,                     ! BROADCAST
1                                 7,1,                     ! CASE CONVERSION
1                                 8,1,                     ! NO ECHO
1                                 9,1,                     ! READ TERMINATORS
1                                 10,1,                    ! CRT'S
1                                 11,1,                    ! ^R
1                                 12,1,                    ! READ/WRITE BINARY
1                                 13,1,                    ! UNSOLICITED INPUT
1                                 127,1,                   ! VERSION 1 OF PROTOCOL
1                                 0,0)),
1         TERMMBXDATA:    VECTOR[4,WORD],
1         UNSOLENBLFLG:   REF RTP_BUF INITIAL(0),
1         ATTACHFLAG:     BYTE INITIAL(0),
1         SINGLEINPROG:   BYTE INITIAL(0),
1         UNSOLPEND:      BYTE INITIAL(0),
1         READINPROG:     BYTE INITIAL(0),
1         SINGLEFLAG:     REF RTP_BUF INITIAL(0),
1         CURRENTIO:      REF RTP_BUF INITIAL(0),
1         INDDATA:        REF RTP_BUF INITIAL(0),
1         IOQUEUE:        VECTOR[2] INITIAL(IOQUEUE,IOQUEUE),
1         BUFQUEUE:       VECTOR[2] INITIAL(BUFQUEUE,BUFQUEUE),
1         CNTRLCMSG:      VECTOR[4,BYTE] INITIAL(BYTE(RF_ECR,0,0,RE_SAR)),
1         LINKMAIL:       VECTOR[40,BYTE],
1         STERMMASK:      VECTOR[4] INITIAL(%X'FFFFFFFF',0,0,%X'E0000000'),
1         STERMDESC:      VECTOR[2] INITIAL(16,STERMMASK),
1         NTERMMASK:      INITIAL(%X'0C002000'),
1         NTERMDESC:      VECTOR[2] INITIAL(4,NTERMMASK),
1         REQ_DSCNTRLY:   $CLIREQDESC (RQTYPE=CLISERV, BITNUM=8);
1 !
1 ! THIS TELLS REMOTE TERMINAL MAIN PROGRAM WHAT PROTOCOL WE SUPPORT
1 !
1 PSECT OWN = PROTOTBL (ALIGN(0));
1 OWN
1         PROTOMASK:      WORD INITIAL(2),            ! RSX-11
1         RSXADDR:        ALIGN(0) INITIAL(RSXRT);
1 !
1 ! EXTERNAL REFERENCES:
1 !
1 EXTERNAL ROUTINE
1         SYS$CLI : ADDRESSING_MODE(LONG_RELATIVE),
1         LIB$GET_VM;
1 BUILTIN
1         INSQUE,
1         REMQUE;
1 EXTERNAL
1         TTYDESC,
1         REM$_NETDIS,
1         RDWRTCHAN: WORD,
1         CNTRLCHAN: WORD,
1         TERMMBXCHAN: WORD,
;   229        0229  1          MAILCHAN: WORD,
;   230        0230  1          LINKCHAN: WORD,
;   231        0231  1          SYSINRAB: $RAB_DECL,
;   232        0232  1          SYSINFAB: $FAB_DECL,
;   233        0233  1          INDFLAG: BYTE,
;   234        0234  1          WAKEFLAG: BYTE,
;   235        0235  1          RETSTATUS;
```

```
  1 ROUTINE RSXRT: NOVALUE =
  1 !++
  1 !
  1 ! Functional Description:
  1 !       Performs initialization functions for RSX remote terminals.
  1 !
  1 !
  1 ! Calling Sequence:
  1 !       standard
  1 !
  1 ! Input Parameters:
  1 !       none
  1 !
  1 ! Implicit Inputs:
  1 !       none
  1 !
  1 ! Output Parameters:
  1 !       none
  1 !
  1 ! Implicit Outputs:
  1 !       none
  1 !
  1 ! Routines Called:
  1 !       GETBUF
  1 !
  1 ! Routine Value:
  1 !       none
  1 !
  1 ! Signals:
  1 !       none
  1 !
  1 ! Side Effects:
  1 !       A configuration message is transmitted.
  1 !       A prompt is displayed on the screen.
  1 !       Reads are initiated on the terminal mailbox and on the link.
  1 !
  1 !--
  2         BEGIN
  2         LOCAL
  2                 BUFFER: REF RTP_BUF;
  2         RETSTATUS =
P 2         $QIOW   (CHAN = .LINKCHAN,       ! SEND CONFIGURATION MESSAGE
P 2                 FUNC = IO$_WRITEVBLK,
P 2                 P1 = .VMSCONFIG,
  2                 P2 = 4 * .(.VMSCONFIG-4));
  2         QUIT_ON_ERROR;
  2         RETSTATOS =
P 2         $QIOW   (CHAN = .RDWRTCHAN,      ! ENABLE UNSOLICITED INPUT
  2                 FUNC = IO$_WRITEVBLK+IO$M_ENABLMBX);
  2         QUIT_ON_ERROR;
  2         RETSTATOS =
P 2         $QIO    (CHAN = .TERMMBXCHAN,    ! UNSOLICITED DATA MBX READ
P 2                 FUNC = IO$_READVBLK,
P 2                 ASTADR = TERMMBXMSG,
P 2                 P1 = TERMMBXDATA,
  2                 P2 = 8);
  2         QUIT_ON_ERROR;
```

```
;    294         0293  2         RETSTATUS =
;    295       P 0294  2         $QIO     (CHAN = .MAILCHAN,        ! LINK MAILBOX READ
;    296       P 0295  2                  FUNC = IO$_READVBLK,
;    297       P 0296  2                  ASTADR = LINKMBXMSG,
;    298       P 0297  2                  P1 = LINKMAIL,
;    299         0298  2                  P2 = 40);
;    300         0299  2         QUIT_ON_ERROR;
;    301         0300  2         RETSTATUS =
;    302       P 0301  2         $QIO     (CHAN = .CNTRLCHAN,       ! HANDLE CONTROL-C
;    303       P 0302  2                  FUNC = IO$_SETMODE+IO$M_CTRLCAST,
;    304         0303  2                  P1 = CNTRLCAST);
;    305         0304  2         QUIT_ON_ERROR;
;    306         0305  2         RETSTATUS =
;    307       P 0306  2         $QIO     (CHAN = .CNTRLCHAN,       ! HANDLE CONTROL-Y
;    308       P 0307  2                  FUNC = IO$_SETMODE+IO$M_CTRLYAST,
;    309         0308  2                  P1 = CNTRLYAST);
;    310         0309  2         QUIT_ON_ERROR;
;    311         0310  2         SYS$CLI(REQ_DSCNTRLY,0,0);         ! DISABLE CLI ^Y
;    312         0311  2         RETSTATUS =
;    313       P 0312  2         $QIOW    (CHAN = .RDWRTCHAN,       ! GIVE AN RSX PROMPT
;    314       P 0313  2                  FUNC = IO$_WRITEVBLK,
;    315       P 0314  2                  P1 = UPLIT BYTE('>'),
;    316         0315  2                  P2 = 1);
;    317         0316  2         QUIT_ON_ERROR;
;    318         0317  2         IF .INDFLAG NEQ 0  THEN
;    319         0318  3                  BEGIN                     ! THERE IS AN INDIRECT FILE
;    320         0319  3                  INDDATA = GETBUF();       ! GET BUFFER FOR FILE READ
;    321         0320  3                  SYSINRAB[RAB$L_UBF] = INDDATA[RTP_DAT]; ! BUFFER ADDRESS
;    322         0321  3                  SYSINRAB[RAB$W_USZ] = 100;        ! ALLOW 100 CHARACTERS
;    323         0322  3                  INDREAD();                ! READ IT
;    324         0323  2                  END;
;    325         0324  2         BUFFER = GETBUF();                 ! REQUEST A BUFFER
;    326         0325  2         RETSTATUS =
;    327       P 0326  2         $QIO     (CHAN = .LINKCHAN,        ! WAIT FOR SOMETHING ON LINK
;    328       P 0327  2                  FUNC = IO$_READVBLK,
;    329       P 0328  2                  IOSB = BUFFER[RTP_IOS],
;    330       P 0329  2                  ASTADR = LINKRECV,
;    331       P 0330  2                  ASTPRM = .BUFFER,
;    332       P 0331  2                  P1 = BUFFER[RTP_FNC],
;    333         0332  2                  P2 = 128);
;    334         0333  2         QUIT_ON_ERROR;
;    335         0334  1         END;


                                                                  .TITLE  RSXRT
                                                                  .IDENT  \V04-000\

                                                                  .PSECT  PROTOTBL,NOEXE,0

                                        0002  00000 PROTOMASK:
                                                                  .WORD   2
                                   00000000'  00002 RSXADDR:.ADDRESS RSXRT                                    ;

                                                                  .PSECT  $PLIT$,NOWRT,NOEXE,2

                                    00000009  00000               .LONG   9                                   ;
                             00  00  01  01   00004 P.AAA:        .BYTE   1, 1, 0, 0                          ;
```

```
                                                0002  0004  00008           .WORD    4, 2                                    ;
                                                      0080  0000C           .WORD    128                                     ;
0B  01  0A  01  09  01  08  01  07  01  05  01  03  C1  02  0000E           .BYTE    2, 1, 3, 1, 5, 1, 7, 1, 8, 1, 9, 1, 10, -  ;
                        00  00  01  7F  01  0D  01  0C  01  0001D                    1, 11, 1, 12, 1, 13, 1, 127, 1, 0, 0    ;
                                                            00026           .BLKB    2                                       ;
                                                        3E  00028 P.AAB:    .ASCII   \>\                                     ;

                                                                            .PSECT   $OWN$,NOEXE,2

                                                            00000 NAMEIOSB:
                                                                            .BLKB    8
                                                 00000000'  00008 VMSCONFIG:
                                                                            .ADDRESS P.AAA                                   ;
                                                            0000C TERMMBXDATA:
                                                                            .BLKB    8
                                                  00000000  00014 UNSOLENBLFLG:
                                                                            .LONG    0                                       ;
                                                        00  00018 ATTACHFLAG:
                                                                            .BYTE    0                                       ;
                                                        00  00019 SINGLEINPROG:
                                                                            .BYTE    0                                       ;
                                                        00  0001A UNSOLPEND:
                                                                            .BYTE    0                                       ;
                                                        00  0001B READINPROG:
                                                                            .BYTE    0                                       ;
                                                  00000000  0001C SINGLEFLAG:
                                                                            .LONG    0                                       ;
                                                  00000000  00020 CURRENTIO:
                                                                            .LONG    0                                       ;
                                                  00000000  00024 INDDATA:  .LONG    0                                       ;
                                      00000000'  00000000'  00028 IOQUEUE:  .ADDRESS IOQUEUE, IOQUEUE                        ;
                                      00000000'  00000000'  00030 BUFQUEUE:
                                                                            .ADDRESS BUFQUEUE, BUFQUEUE                      ;
                                               00  00  00  0C  00038 CNTRLCMSG:
                                                                            .BYTE    12, 0, 0, 0                             ;
                                                            0003C LINKMAIL:
                                                                            .BLKB    40
                    E0000000  00000000  00000000  FFFFFFFF  00064 STERMMASK:
                                                                            .LONG    -1, 0, 0, -536870912                    ;
                                                  00000010  00074 STERMDESC:
                                                                            .LONG    16                                      ;
                                                 00000000'  00078           .ADDRESS STERMMASK                               ;
                                                  0C002000  0007C NTERMMASK:
                                                                            .LONG    201334784                               ;
                                                  00000004  00080 NTERMDESC:
                                                                            .LONG    4                                       ;
                                                 00000000'  00084           .ADDRESS NTERMMASK                               ;
                                                        05  00088 REQ_DSCNTRLY:
                                                                            .BYTE    5                                       ;
                                                        08  00089           .BYTE    8                                       ;
                                                        00  0008A           .BYTE    0                                       ;
                                                        00  0008B           .BYTE    0                                       ;
                                                  00000000  0008C           .LONG    0                                       ;
                                        00000000  00000000  00090           .LONG    0, 0                                    ;
                                                  00000000  00098           .LONG    0                                       ;
                                                  00000000  0009C           .LONG    0                                       ;
                                                  00000000  000A0           .LONG    0                                       ;
```

```
                                                                  .EXTRN   SYS$CLI, LIB$GET_VM
                                                                  .EXTRN   TTYDESC, REM$_NETDIS
                                                                  .EXTRN   RDWRTCHAN, CNTRLCHAN
                                                                  .EXTRN   TERMMBXCHAN, MAILCHAN
                                                                  .EXTRN   LINKCHAN, SYSINRAB
                                                                  .EXTRN   SYSINFAB, INDFLAG
                                                                  .EXTRN   WAKEFLAG, RETSTATUS
                                                                  .EXTRN   SYS$QIOW, SYS$SETAST
                                                                  .EXTRN   SYS$WAKE, SYS$QIO

                                                                  .PSECT   $CODE$,NOWRT,2

                                          01FC 00000 RSXRT:       .WORD    Save R2,R3,R4,R5,R6,R7,R8                    ; 0236
                       58 00000000G  00    9E 00002               MOVAB    CNTRLCHAN, R8                                ;
                       57 00000000G  00    9E 00009               MOVAB    RDWRTCHAN, R7                                ;
                       56 00000000G  00    9E 00010               MOVAB    LINKCHAN, R6                                 ;
                       55     0000'  CF    9E 00017               MOVAB    INDDATA, R5                                  ;
                       54 00000000G  00    9E 0001C               MOVAB    SYS$QIOW, R4                                 ;
                       53 00000000G  00    9E 00023               MOVAB    SYS$QIO, R3                                  ;
                       52 00000000G  00    9E 0002A               MOVAB    RETSTATUS, R2                                ;
                                     7E    7C 00031               CLRQ     -(SP)                                        ; 0280
                                     7E    7C 00033               CLRQ     -(SP)                                        ;
                       50        E4  A5    D0 00035               MOVL     VMSCONFIG, R0                                ;
  7E         FC        A0            02    78 00039               ASHL     #2, -4(R0), -(SP)                            ;
                                     50    DD 0003E               PUSHL    R0                                           ;
                                     7E    7C 00040               CLRQ     -(SP)                                        ;
                       7E            30    7D 00042               MOVQ     #48, -(SP)                                   ;
                       7E            66    3C 00045               MOVZWL   LINKCHAN, -(SP)                              ;
                                     7E    D4 00048               CLRL     -(SP)                                        ;
                       64            0C    FB 0004A               CALLS    #12, SYS$QIOW                                ;
                       62            50    D0 0004D               MOVL     R0, RETSTATUS                                ;
                       61            62    E9 00050               BLBC     RETSTATUS, 1$                                ;
                                     7E    7C 00053               CLRQ     -(SP)                                        ; 0284
                                     7E    7C 00055               CLRQ     -(SP)                                        ;
                                     7E    7C 00057               CLRQ     -(SP)                                        ;
                                     7E    7C 00059               CLRQ     -(SP)                                        ;
                                     7E    D4 0005B               CLRL     -(SP)                                        ;
                       7E        B0  8F    9A 0005D               MOVZBL   #176, -(SP)                                  ;
                       7E            67    3C 00061               MOVZWL   RDWRTCHAN, -(SP)                             ;
                                     7E    D4 00064               CLRL     -(SP)                                        ;
                       64            0C    FB 00066               CALLS    #12, SYS$QIOW                                ;
                       62            50    D0 00069               MOVL     R0, RETSTATUS                                ;
                       66            62    E9 0006C               BLBC     RETSTATUS, 2$                                ;
                                     7E    7C 0006F               CLRQ     -(SP)                                        ; 0291
                                     7E    7C 00071               CLRQ     -(SP)                                        ;
                                     08    DD 00073               PUSHL    #8                                           ;
                                 E8  A5    9F 00075               PUSHAB   TERMMBXDATA                                  ;
                                     7E    D4 00078               CLRL     -(SP)                                        ;
                              0000V  CF    9F 0007A               PUSHAB   TERMMBXMSG                                   ;
                       7E            31    7D 0007E               MOVQ     #49, -(SP)                                   ;
                       7E 00000000G  00    3C 00081               MOVZWL   TERMMBXCHAN, -(SP)                           ;
                                     7E    D4 00088               CLRL     -(SP)                                        ;
                       63            0C    FB 0008A               CALLS    #12, SYS$QIO                                 ;
                       62            50    D0 0008D               MOVL     R0, RETSTATUS                                ;
                       62            62    E9 00090               BLBC     RETSTATUS, 3$                                ;
                                     7E    7C 00093               CLRQ     -(SP)                                        ; 0298
```

```
                                         7E  7C 00095          CLRQ     -(SP)                            :
                                         28  DD 00097          PUSHL    #40                              :
                                    18   A5  9F 00099          PUSHAB   LINKMAIL                         :
                                         7E  D4 0009C          CLRL     -(SP)                            :
                                 0000V   CF  9F 0009E          PUSHAB   LINKMBXMSG                       :
                          7E             31  7D 000A2          MOVQ     #49, -(SP)                       :
                          7E  00000000G  00  3C 000A5          MOVZWL   MAILCHAN, -(SP)                  :
                                         7E  D4 000AC          CLRL     -(SP)                            :
                          63             0C  FB 000AE          CALLS    #12, SYS$QIO                     :
                          62             50  D0 000B1          MOVL     R0, RETSTATUS                    :
                          67             62  E9 000B4 1$:      BLBC     RETSTATUS, 4$                    :
                                         7E  7C 000B7          CLRQ     -(SP)                            : 0303
                                         7E  7C 000B9          CLRQ     -(SP)                            :
                                         7E  D4 000BB          CLRL     -(SP)                            :
                                 0000V   CF  9F 000BD          PUSHAB   CNTRLCAST                        :
                                         7E  7C 000C1          CLRQ     -(SP)                            :
                                         7E  D4 000C3          CLRL     -(SP)                            :
                          7E      0123   8F  3C 000C5          MOVZWL   #291, -(SP)                      :
                          7E             68  3C 000CA          MOVZWL   CNTRLCHAN, -(SP)                 :
                                         7E  D4 000CD          CLRL     -(SP)                            :
                          63             0C  FB 000CF          CALLS    #12, SYS$QIO                     :
                          62             50  D0 000D2          MOVL     R0, RETSTATUS                    :
                          46             62  E9 000D5 2$:      BLBC     RETSTATUS, 4$                    :
                                         7E  7C 000D8          CLRQ     -(SP)                            : 0309
                                         7E  7C 000DA          CLRQ     -(SP)                            :
                                         7E  D4 000DC          CLRL     -(SP)                            :
                                 0000V   CF  9F 000DE          PUSHAB   CNTRLYAST                        :
                                         7E  7C 000E2          CLRQ     -(SP)                            :
                                         7E  D4 000E4          CLRL     -(SP)                            :
                          7E        A3   8F  9A 000E6          MOVZBL   #163, -(SP)                      :
                          7E             68  3C 000EA          MOVZWL   CNTRLCHAN, -(SP)                 :
                                         7E  D4 000ED          CLRL     -(SP)                            :
                          63             0C  FB 000EF          CALLS    #12, SYS$QIO                     :
                          62             50  D0 000F2          MOVL     R0, RETSTATUS                    :
                          77             62  E9 000F5 3$:      BLBC     RETSTATUS, 6$                    :
                                         7E  7C 000F8          CLRQ     -(SP)                            : 0310
                                    64   A5  9F 000FA          PUSHAB   REQ_DSCNTRLY                     :
                00000000G EF             03  FB 000FD          CALLS    #3, SYS$CLI                      :
                                         7E  7C 00104          CLRQ     -(SP)                            : 0315
                                         7E  7C 00106          CLRQ     -(SP)                            :
                                         01  DD 00108          PUSHL    #1                               :
                                 0000'   CF  9F 0010A          PUSHAB   P.AAB                            :
                                         7E  7C 0010E          CLRQ     -(SP)                            :
                          7E             30  7D 00110          MOVQ     #48, -(SP)                       :
                          7E             67  3C 00113          MOVZWL   RDWRTCHAN, -(SP)                 :
                                         7E  D4 00116          CLRL     -(SP)                            :
                          64             0C  FB 00118          CALLS    #12, SYS$QIOW                    :
                          62             50  D0 0011B          MOVL     R0, RETSTATUS                    :
                          4E             62  E9 0011E 4$:      BLBC     RETSTATUS, 6$                    :
                              00000000G  00  95 00121          TSTB     INDFLAG                          : 0317
                                         1D  13 00127          BEQL     5$                               :
                    0000V CF             00  FB 00129          CALLS    #0, GETBUF                       : 0319
                          65             50  D0 0012E          MOVL     R0, INDDATA                      :
00000000G  00             65             1A  C1 00131          ADDL3    #26, INDDATA, SYSINRAB+36        : 0320
                00000000G 00        64   8F  9B 00139          MOVZBW   #100, SYSINRAB+32                : 0321
                    0000V CF             00  FB 00141          CALLS    #0, INDREAD                      : 0322
                    0000V CF             00  FB 00146 5$:      CALLS    #0, GETBUF                       : 0324
```

```
                                     7E  7C 0014B          CLRQ    -(SP)                                    ; 0332
                                     7E  7C 0014D          CLRQ    -(SP)                                    ;
                     7E        80    8F  9A 0014F          MOVZBL  #128, -(SP)                              ;
                               10    A0  9F 00153          PUSHAB  16(BUFFER)                               ;
                                     50  DD 00156          PUSHL   BUFFER                                   ;
                            0000V    CF  9F 00158          PUSHAB  LINKRECV                                 ;
                               08    A0  9F 0015C          PUSHAB  8(BUFFER)                                ;
                                     31  DD 0015F          PUSHL   #49                                      ;
                     7E              66  3C 00161          MOVZWL  LINKCHAN, -(SP)                          ;
                                     7E  D4 00164          CLRL    -(SP)                                    ;
                     63              0C  FB 00166          CALLS   #12, SYS$QIO                             ;
                     62              50  D0 00169          MOVL    R0, RETSTATUS                            ;
                     19              62  E8 0016C          BLBS    RETSTATUS, 7$                            ;
                                     7E  D4 0016F 6$:      CLRL    -(SP)                                    ;
          00000000G  00              01  FB 00171          CALLS   #1, SYS$SETAST                           ;
          00000000G  00              01  90 00178          MOVB    #1, WAKEFLAG                             ;
                                     7E  7C 0017F          CLRQ    -(SP)                                    ;
          00000000G  00              02  FB 00181          CALLS   #2, SYS$WAKE                             ;
                                         04 00188 7$:      RET                                              ; 0334

; Routine Size:  393 bytes,    Routine Base:  $CODE$ + 0000
;  337         0335  1 ROUTINE GETBUF =
;  338         0336  1 !++
;  339         0337  1 !
;  340         0338  1 ! Functional Description:
;  341         0339  1 !       Allocate a buffer.
;  342         0340  1 !
;  343         0341  1 !
;  344         0342  1 ! Calling Sequence:
;  345         0343  1 !       standard
;  346         0344  1 !
;  347         0345  1 ! Input Parameters:
;  348         0346  1 !       none
;  349         0347  1 !
;  350         0348  1 ! Implicit Inputs:
;  351         0349  1 !       BUFQUEUE
;  352         0350  1 !
;  353         0351  1 ! Output Parameters:
;  354         0352  1 !       none
;  355         0353  1 !
;  356         0354  1 ! Implicit Outputs:
;  357         0355  1 !       none
;  358         0356  1 !
;  359         0357  1 ! Routines Called:
;  360         0358  1 !       LIB$GET_VM
;  361         0359  1 !
;  362         0360  1 ! Routine Value:
;  363         0361  1 !       buffer address
;  364         0362  1 !
;  365         0363  1 ! Signals:
;  366         0364  1 !       none
;  367         0365  1 !
;  368         0366  1 ! Side Effects:
;  369         0367  1 !       none
;  370         0368  1 !
;  371         0369  1 !--
;  372         0370  2         BEGIN
;  373         0371  2         LOCAL
;  374         0372  2                 BUFADR:;
;  375         0373  2         IF REMQUE(.BUFQUEUE,BUFADR) EQL 3  THEN         ! WAS QUEUE EMPTY?
;  376         0374  2                 LIB$GET_VM(UPLIT(128+16),BUFADR);       ! GET A BUFFER
;  377         0375  2         RETURN .BUFADR;
;  378         0376  1         END;


                                                          .PSECT  $PLIT$,NOWRT,NOEXE,2

                                          00029           .BLKB   3
                                00000090  0002C P.AAC:    .LONG   144                                  ;


                                                          .PSECT  $CODE$,NOWRT,2

                                    0000  00000 GETBUF:   .WORD   Save nothing                         ; 0335
                   7E     0000'  DF   0F  00002           REMQUE  @BUFQUEUE, BUFADR                    ; 0373
                                 50   DC  00007           MOVPSL  R0                                   ;
```

```
       50           50             02            01  EF 00009          EXTZV   #1, #2, R0, R0                        ;
                                   03            50  D1 0000E          CMPL    R0, #3                                ;
                                                 0D  12 00011          BNEQ    1$                                    ;
                                                 5E  DD 00013          PUSHL   SP                                    ; 0374
                                         0000'   CF  9F 00015          PUSHAB  P.AAC                                 ;
                        00000000G  00            02  FB 00019          CALLS   #2, LIB$GET_VM                        ;
                                   50            6E  D0 00020 1$:      MOVL    BUFADR, R0                            ; 0375
                                                     04 00023          RET                                           ; 0376

; Routine Size:  36 bytes,    Routine Base:  $CODE$ + 0189


;  379          0377  1
;   381          0378   1 ROUTINE FREEBUF(BUF) =
;   382          0379   1 !++
;   383          0380   1 !
;   384          0381   1 ! Functional Description:
;   385          0382   1 !       Release a buffer.
;   386          0383   1 !
;   387          0384   1 !
;   388          0385   1 ! Calling Sequence:
;   389          0386   1 !       standard
;   390          0387   1 !
;   391          0388   1 ! Input Parameters:
;   392          0389   1 !       BUF = buffer address
;   393          0390   1 !
;   394          0391   1 ! Implicit Inputs:
;   395          0392   1 !       none
;   396          0393   1 !
;   397          0394   1 ! Output Parameters:
;   398          0395   1 !       none
;   399          0396   1 !
;   400          0397   1 ! Implicit Outputs:
;   401          0398   1 !       BUFQUEUE
;   402          0399   1 !
;   403          0400   1 ! Routines Called:
;   404          0401   1 !       none
;   405          0402   1 !
;   406          0403   1 ! Routine Value:
;   407          0404   1 !       none
;   408          0405   1 !
;   409          0406   1 ! Signals:
;   410          0407   1 !       none
;   411          0408   1 !
;   412          0409   1 ! Side Effects:
;   413          0410   1 !       none
;   414          0411   1 !
;   415          0412   1 !--
;   416          0413   2         BEGIN
;   417          0414   2         INSQUE(.BUF,BUFQUEUE)
;   418          0415   1         END;



                                       0000 00000 FREEBUF:.WORD    Save nothing                                    ; 0378
                                    50  D4 00002          CLRL     R0                                              ; 0414
                     0000'  CF     04  BC  0E 00004          INSQUE   @BUF, BUFQUEUE                                  ;
                                    02  12 0000A          BNEQ     1$                                              ;
                                    50  D6 0000C          INCL     R0                                              ;
                                        04 0000E 1$:      RET                                                      ; 0415

; Routine Size:  15 bytes,    Routine Base:  $CODE$ + 01AD
```

```
1 ROUTINE LINKRECV(BUFFER): NOVALUE =
1 !++
1 !
1 ! Functional Description:
1 !       Receive a message on the link and call the correct service routine.
1 !
1 !
1 ! Calling Sequence:
1 !       standard
1 !
1 ! Input Parameters:
1 !       BUFFER = input buffer address
1 !
1 ! Implicit Inputs:
1 !       none
1 !
1 ! Output Parameters:
1 !       none
1 !
1 ! Implicit Outputs:
1 !       RETSTATUS
1 !
1 ! Routines Called:
1 !       WRITE
1 !       READ
1 !       READPROMPT
1 !       UNSDATENBL
1 !       CANCEL
1 !       READSINGLE
1 !       ATTACH
1 !       UNSUPPORTED
1 !       GETBUF
1 !       GETTERMCHAR
1 !
1 ! Routine Value:
1 !       none
1 !
1 ! Signals:
1 !       none
1 !
1 ! Side Effects:
1 !       A new read to the link is initiated.
1 !       If there is an error on the read, a $WAKE is issued to force the
1 !       program to exit.
1 !
1 !--
2       BEGIN
2       LOCAL
2               NEWBUF: REF RTP_BUF;
2       MAP BUFFER: REF RTP_BUF;
2       RETSTATUS = .BUFFER[RTP_IOS];
2       IF .RETSTATUS EQL SS$_ABORT  THEN
2               RETURN;                 ! Link gone - mailbox message will tell why
2       QUIT_ON_ERROR;
2       CASE .BUFFER[RTP_FNC] FROM 0 TO 12 OF
2               SET
2               [RF_WTD]:       WRITE(.BUFFER);
```

```
;  477          0473  2                   [RF_RDD]:          READ(.BUFFER);
;  478          0474  2                   [RF_WRD]:          READPROMPT(.BUFFER);
;  479          0475  2                   [RF_UNS]:          UNSDATENBL(.BUFFER);
;  480          0476  2                   [RF_KIL]:          CANCEL(.BUFFER);
;  481          0477  2                   [RF_RSC]:          READSINGLE(.BUFFER);
;  482          0478  2                   [RF_ATT]:          ATTACH(.BUFFER);
;  483          0479  2                   [RF_GTC]:          GETTERMCHAR(.BUFFER);
;  484          0480  2                   [INRANGE]:         UNSUPPORTED(.BUFFER);
;  485          0481  2                   [OUTRANGE]:        UNSUPPORTED(.BUFFER);
;  486          0482  2                   TES;
;  487          0483  2           NEWBUF = GETBUF();        ! GET ANOTHER BUFFER
;  488          0484  2           RETSTATUS =
;  489        P 0485  2           $QIO      (CHAN = .LINKCHAN,       ! READ LINK AGAIN
;  490        P 0486  2                     FUNC = IO$_READVBLK,
;  491        P 0487  2                     IOSB = NEWBUF[RTP_IOS],
;  492        P 0488  2                     ASTADR = LINKRECV,
;  493        P 0489  2                     ASTPRM = .NEWBUF,
;  494        P 0490  2                     P1 = NEWBUF[RTP_FNC],
;  495          0491  2                     P2 = 128);
;  496          0492  2           IF .RETSTATUS EQL SS$_ABORT  THEN
;  497          0493  2                   RETURN;                   ! Link gone - mailbox msg will tell why
;  498          0494  2           QUIT_ON_ERROR;
;  499          0495  1           END;



                                          000C 00000 LINKRECV:
                                                              .WORD   Save R2,R3                                ; 0416
                        53 00000000G  00   9E 00002           MOVAB   RETSTATUS, R3                             ;
                        52        04  AC   D0 00009           MOVL    BUFFER, R2                                ; 0466
                        63        08  A2   3C 0000D           MOVZWL  8(R2), RETSTATUS                          ;
                        50            63   D0 00011           MOVL    RETSTATUS, R0                             ; 0467
                        2C            50   D1 00014           CMPL    R0, #44                                   ;
                                      01   12 00017           BNEQ    1$                                        ;
                                           04 00019           RET                                               ;
                        03            50   E8 0001A 1$:       BLBS    R0, 2$                                    ; 0468
                                    00A6   31 0001D           BRW     14$                                       ;
            0C          00        10  A2   8F 00020 2$:       CASEB   16(R2), #0, #12                           ; 0470
   001C    0064       0064          0064      00025 3$:       .WORD   12$-3$,-                                  ;
   0049    0037       002E          0025      0002D                   12$-3$,-                                  ;
   0064    005B       0052          0040      00035                   12$-3$,-                                  ;
                                    0064      0003D                   4$-3$,-                                   ;
                                                                      5$-3$,-                                   ;
                                                                      6$-3$,-                                   ;
                                                                      7$-3$,-                                   ;
                                                                      9$-3$,-                                   ;
                                                                      8$-3$,-                                   ;
                                                                      10$-3$,-                                  ;
                                                                      11$-3$,-                                  ;
                                                                      12$-3$,-                                  ;
                                                                      12$-3$                                    ;
                                      48   11 0003F           BRB     12$                                       ; 0481
                                      52   DD 00041 4$:       PUSHL   R2                                        ; 0472
                   0000V  CF          01   FB 00043           CALLS   #1, WRITE                                 ;
                                      46   11 00048           BRB     13$                                       ;
```

```
                                  52 DD 0004A 5$:     PUSHL   R2                                  ; 0473
                 0000V  CF        01 FB 0004C         CALLS   #1, READ                            ;
                                  3D 11 00051         BRB     13$                                 ;
                                  52 DD 00053 6$:     PUSHL   R2                                  ; 0474
                 0000V  CF        01 FB 00055         CALLS   #1, READPROMPT                      ;
                                  34 11 0005A         BRB     13$                                 ;
                                  52 DD 0005C 7$:     PUSHL   R2                                  ; 0475
                 0000V  CF        01 FB 0005E         CALLS   #1, UNSDATENBL                      ;
                                  2B 11 00063         BRB     13$                                 ;
                                  52 DD 00065 8$:     PUSHL   R2                                  ; 0476
                 0000V  CF        01 FB 00067         CALLS   #1, CANCEL                          ;
                                  22 11 0006C         BRB     13$                                 ;
                                  52 DD 0006E 9$:     PUSHL   R2                                  ; 0477
                 0000V  CF        01 FB 00070         CALLS   #1, READSINGLE                      ;
                                  19 11 00075         BRB     13$                                 ;
                                  52 DD 00077 10$:    PUSHL   R2                                  ; 0478
                 0000V  CF        01 FB 00079         CALLS   #1, ATTACH                          ;
                                  10 11 0007E         BRB     13$                                 ;
                                  52 DD 00080 11$:    PUSHL   R2                                  ; 0479
                 0000V  CF        01 FB 00082         CALLS   #1, GETTERMCHAR                     ;
                                  07 11 00087         BRB     13$                                 ;
                                  52 DD 00089 12$:    PUSHL   R2                                  ; 0480
                 0000V  CF        01 FB 0008B         CALLS   #1, UNSUPPORTED                     ;
                 FF38   CF        00 FB 00090 13$:    CALLS   #0, GETBUF                          ; 0483
                                  7E 7C 00095         CLRQ    -(SP)                               ; 0491
                                  7E 7C 00097         CLRQ    -(SP)                               ;
                        7E     80 8F 9A 00099         MOVZBL  #128, -(SP)                         ;
                               10 A0 9F 0009D         PUSHAB  16(NEWBUF)                          ;
                                  50 DD 000A0         PUSHL   NEWBUF                              ;
                             FF5A CF 9F 000A2         PUSHAB  LINKRECV                            ;
                               08 A0 9F 000A6         PUSHAB  8(NEWBUF)                           ;
                                  31 DD 000A9         PUSHL   #49                                 ;
                        7E 00000000G 00 3C 000AB      MOVZWL  LINKCHAN, -(SP)                     ;
                                  7E D4 000B2         CLRL    -(SP)                               ;
             00000000G  00        0C FB 000B4         CALLS   #12, SYS$QIO                        ;
                        63        50 D0 000BB         MOVL    R0, RETSTATUS                       ;
                        2C        50 D1 000BE         CMPL    R0, #44                             ; 0492
                                  1C 13 000C1         BEQL    15$                                 ;
                        19        50 E8 000C3         BLBS    R0, 15$                             ; 0493
                                  7E D4 000C6 14$:    CLRL    -(SP)                               ;
             00000000G  00        01 FB 000C8         CALLS   #1, SYS$SETAST                      ;
             00000000G  00        01 90 000CF         MOVB    #1, WAKEFLAG                        ;
                                  7E 7C 000D6         CLRQ    -(SP)                               ;
             00000000G  00        02 FB 000D8         CALLS   #2, SYS$WAKE                        ;
                                     04 000DF 15$:    RET                                         ; 0495

; Routine Size:  224 bytes,    Routine Base:  $CODE$ + 01BC
;   501         0496  1 ROUTINE WRITE(BUFFER): NOVALUE =
;   502         0497  1 !++
;   503         0498  1 !
;   504         0499  1 ! Functional Description:
;   505         0500  1 !       Perform a write QIO function to the terminal.
;   506         0501  1 !
;   507         0502  1 ! Calling Sequence:
;   508         0503  1 !       standard
;   509         0504  1 !
;   510         0505  1 ! Input Parameters:
;   511         0506  1 !       BUFFER = address of buffer from link
;   512         0507  1 !
;   513         0508  1 ! Implicit Inputs:
;   514         0509  1 !       CURRENTIO
;   515         0510  1 !
;   516         0511  1 ! Output Parameters:
;   517         0512  1 !       none
;   518         0513  1 !
;   519         0514  1 ! Implicit Outputs:
;   520         0515  1 !       IOQUEUE
;   521         0516  1 !
;   522         0517  1 ! Routines Called:
;   523         0518  1 !       BROADCAST
;   524         0519  1 !
;   525         0520  1 ! Routine Value:
;   526         0521  1 !       none
;   527         0522  1 !
;   528         0523  1 ! Signals:
;   529         0524  1 !       none
;   530         0525  1 !
;   531         0526  1 ! Side Effects:
;   532         0527  1 !       An I/O may be queued for later action
;   533         0528  1 !
;   534         0529  1 !--
;   535         0530  2         BEGIN
;   536         0531  2         MAP BUFFER: REF RTP_BUF;
;   537         0532  2         IF (.BUFFER[RTP_MOD] AND RM_WBT) NEQ 0  THEN
;   538         0533  2                 BROADCAST(.BUFFER)      ! IT IS A BROADCAST WRITE
;   539         0534  2         ELSE
;   540         0535  3                 BEGIN
;   541         0536  3                 IF .CURRENTIO EQL 0 THEN
;   542         0537  4                   BEGIN
;   543         0538  4                   RETSTATUS =
;   544       P 0539  4                   $QIO  (CHAN = .RDWRTCHAN,      ! WRITE TO THE TERMINAL
;   545       P 0540  4                          FUNC = IO$_WRITEVBLK,
;   546       P 0541  4                          IOSB = BUFFER[RTP_IOS],
;   547       P 0542  4                          ASTADR = QIODONE,
;   548       P 0543  4                          ASTPRM = .BUFFER,
;   549       P 0544  4                          P1 = BUFFER[RTP_DAT],
;   550         0545  4                          P2 = .BUFFER[RTP_TCT]);
;   551         0546  4                   QUIT_ON_ERROR;
;   552         0547  4                   CURRENTIO = .BUFFER;
;   553         0548  4                   END
;   554         0549  3                 ELSE
;   555         0550  3                   INSQUE(.BUFFER,.IOQUEUE[1]);  ! QUEUE IT FOR LATER
;   556         0551  2                 END;
;   557         0552  1         END;
```

```
                                         000C 00000 WRITE:  .WORD    Save R2,R3                               ; 0496
                  53 00000000G   00   9E 00002              MOVAB    RETSTATUS, R3                            ;
                  52       04    AC   D0 00009              MOVL     BUFFER, R2                               ; 0532
    08        11  A2             01   E1 0000D              BBC      #1, 17(R2), 1$                           ;
                                 52   DD 00012              PUSHL    R2                                       ; 0533
           0000V  CF             01   FB 00014              CALLS    #1, BROADCAST                            ;
                                      04 00019              RET                                               ;
                        0000'    CF   D5 0001A 1$:          TSTL     CURRENTIO                                ; 0536
                                 4C   12 0001E              BNEQ     3$                                       ;
                                 7E   7C 00020              CLRQ     -(SP)                                    ; 0545
                                 7E   7C 00022              CLRQ     -(SP)                                    ;
                  7E       18    A2   3C 00024              MOVZWL   24(R2), -(SP)                            ;
                           1A    A2   9F 00028              PUSHAB   26(R2)                                   ;
                                 52   DD 0002B              PUSHL    R2                                       ;
                        0000V    CF   9F 0002D              PUSHAB   QIODONE                                  ;
                           08    A2   9F 00031              PUSHAB   8(R2)                                    ;
                                 30   DD 00034              PUSHL    #48                                      ;
                  7E 00000000G   00   3C 00036              MOVZWL   RDWRTCHAN, -(SP)                         ;
                                 7E   D4 0003D              CLRL     -(SP)                                    ;
       00000000G  00             0C   FB 0003F              CALLS    #12, SYS$QIO                             ;
                  63             50   D0 00046              MOVL     R0, RETSTATUS                            ;
                  1A             63   E8 00049              BLBS     RETSTATUS, 2$                            ;
                                 7E   D4 0004C              CLRL     -(SP)                                    ;
       00000000G  00             01   FB 0004E              CALLS    #1, SYS$SETAST                           ;
       00000000G  00             01   90 00055              MOVB     #1, WAKEFLAG                             ;
                                 7E   7C 0005C              CLRQ     -(SP)                                    ;
       00000000G  00             02   FB 0005E              CALLS    #2, SYS$WAKE                             ;
                                      04 00065              RET                                               ;
           0000'  CF             52   D0 00066 2$:          MOVL     R2, CURRENTIO                            ; 0547
                                      04 0006B              RET                                               ; 0536
           0000'  DF             62   0E 0006C 3$:          INSQUE   (R2), @IOQUEUE+4                         ; 0550
                                      04 00071              RET                                               ; 0552

; Routine Size:  114 bytes,    Routine Base:  $CODE$ + 029C
```

```
1 ROUTINE READ(BUFFER): NOVALUE =
1 !++
1 !
1 ! Functional Description:
1 !       Perform a read QIO function to the terminal.
1 !
1 ! Calling Sequence:
1 !       standard
1 !
1 ! Input Parameters:
1 !       BUFFER = address of the link buffer
1 !
1 ! Implicit Inputs:
1 !       CURRENTIO
1 !       INDDATA
1 !
1 ! Output Parameters:
1 !       none
1 !
1 ! Implicit Outputs:
1 !       IOQUEUE
1 !       CURRENTIO
1 !       READINPROG
1 !       UNSOLPEND
1 ! Routines Called:
1 !       INDREAD
1 !       QIODONE
1 !
1 ! Routine Value:
1 !       none
1 !
1 ! Signals:
1 !       none
1 !
1 ! Side Effects:
1 !       An I/O may be queued for later action.
1 !
1 !--
2         BEGIN
2         MAP BUFFER: REF RTP_BUF;
2         LOCAL
2                 FUNCTION;
2         IF .INDDATA NEQ 0  THEN
3                 BEGIN           ! WE ALREADY HAVE INDIRECT COMMAND DATA
3                 BUFFER[RTP_IOS] = .INDDATA[RTP_IOS];    ! COPY THE IOSB
3                 BUFFER[RTP_IOC] = .INDDATA[RTP_IOC];
3                 CH$MOVE(.INDDATA[RTP_IOC]+1,INDDATA[RTP_DAT],   ! COPY THE DATA
3                         BUFFER[RTP_DAT]);
3                 INDREAD();                              ! LOOK FOR MORE DATA
3                 QIODONE(.BUFFER);                       ! PASS THIS DATA ON
3                 RETURN;
2                 END;
2         IF .CURRENTIO EQL 0 THEN
3                 BEGIN
3                 IF (.BUFFER[RTP_MOD] AND RM_RBN) NEQ 0  THEN
3                         FUNCTION = IO$_TTYREADALL       ! BINARY
3                 ELSE
```

```
;  616        0610  3                          FUNCTION = IO$_READVBLK;          ! NORMAL
;  617        0611  3                  RETSTATUS =
;  618      P 0612  3                  $QIO    (CHAN = .RDWRTCHAN,     ! READ FROM THE TERMINAL
;  619      P 0613  3                           FUNC = .FUNCTION+MAPMODIFIER(.BUFFER[RTP_MOD]),
;  620      P 0614  3                           IOSB = BUFFER[RTP_IOS],
;  621      P 0615  3                           ASTADR = QIODONE,
;  622      P 0616  3                           ASTPRM = .BUFFER,
;  623      P 0617  3                           P1 = BUFFER[RTP_DAT],
;  624      P 0618  3                           P2 = .BUFFER[RTP_RCT],
;  625        0619  3                           P4 = TERMINATOR(.BUFFER[RTP_MOD]));
;  626        0620  3                  QUIT_ON_ERROR;
;  627        0621  3                  CURRENTIO = .BUFFER;
;  628        0622  3                  UNSOLPEND = 0;            ! NO MORE DATA PENDING
;  629        0623  3                  READINPROG = 1;
;  630        0624  3                  END
;  631        0625  2             ELSE
;  632        0626  2                  INSQUE(.BUFFER,.IOQUEUE[1]);    ! QUEUE IT FOR LATER
;  633        0627  1             END;



                                    01FC 00000 READ:    .WORD   Save R2,R3,R4,R5,R6,R7,R8                     ; 0553
                58 00000000G    00   9E 00002         MOVAB   RETSTATUS, R8                                  ;
                57     0000'    CF   9E 00009         MOVAB   CURRENTIO, R7                                  ;
                50        04    A7   D0 0000E         MOVL    INDDATA, R0                                    ; 0595
                                22   13 00012         BEQL    1$                                             ;
                56        04    AC   D0 00014         MOVL    BUFFER, R6                                     ; 0597
            08  A6        08    A0   D0 00018         MOVL    8(R0), 8(R6)                                   ;
                51        0A    A0   3C 0001D         MOVZWL  10(R0), R1                                     ; 0599
                                51   D6 00021         INCL    R1                                             ;
 1A    A6     1A  A0            51   28 00023         MOVC3   R1, 26(R0), 26(R6)                             ; 0600
            0000V CF            00   FB 00029         CALLS   #0, INDREAD                                    ; 0601
                                56   DD 0002E         PUSHL   R6                                             ; 0602
            0000V CF            01   FB 00030         CALLS   #1, QIODONE                                    ;
                                04      00035         RET                                                    ; 0596
                52        04    AC   D0 00036 1$:     MOVL    BUFFER, R2                                     ; 0607
                                67   D5 0003A         TSTL    CURRENTIO                                      ; 0605
                                72   12 0003C         BNEQ    5$                                             ;
       05     11  A2            02   E1 0003E         BBC     #2, 17(R2), 2$                                 ; 0607
                  53            3A   D0 00043         MOVL    #58, FUNCTION                                  ; 0608
                                03   11 00046         BRB     3$                                             ;
                  53            31   D0 00048 2$:     MOVL    #49, FUNCTION                                  ; 0610
                                7E   7C 0004B 3$:     CLRQ    -(SP)                                          ; 0619
                  7E      11    A2   9A 0004D         MOVZBL  17(R2), -(SP)                                  ;
            0000V CF            01   FB 00051         CALLS   #1, TERMINATOR                                 ;
                                50   DD 00056         PUSHL   R0                                             ;
                                7E   D4 00058         CLRL    -(SP)                                          ;
                  7E      16    A2   3C 0005A         MOVZWL  22(R2), -(SP)                                  ;
                          1A    A2   9F 0005E         PUSHAB  26(R2)                                         ;
                                52   DD 00061         PUSHL   R2                                             ;
                       0000V    CF   9F 00063         PUSHAB  QIODONE                                        ;
                          08    A2   9F 00067         PUSHAB  8(R2)                                          ;
                  7E      11    A2   9A 0006A         MOVZBL  17(R2), -(SP)                                  ;
            0000V CF            01   FB 0006E         CALLS   #1, MAPMODIFIER                                ;
                              6043   9F 00073         PUSHAB  (R0)[FUNCTION]                                 ;
```

```
                    7E 00000000G  00  3C 00076          MOVZWL  RDWRTCHAN, -(SP)          ;
                                  7E  D4 0007D          CLRL    -(SP)                     ;
          00000000G  00           0C  FB 0007F          CALLS   #12, SYS$QIO              ;
                     68           50  D0 00086          MOVL    R0, RETSTATUS             ;
                     1A           68  E8 00089          BLBS    RETSTATUS, 4$             ;
                                  7E  D4 0008C          CLRL    -(SP)                     ;
          00000000G  00           01  FB 0008E          CALLS   #1, SYS$SETAST            ;
          00000000G  00           01  90 00095          MOVB    #1, WAKEFLAG              ;
                                  7E  7C 0009C          CLRQ    -(SP)                     ;
          00000000G  00           02  FB 0009E          CALLS   #2, SYS$WAKE              ;
                                      04 000A5          RET                               ;
                     67           52  D0 000A6 4$:      MOVL    R2, CURRENTIO             ; 0621
                 FA  A7     0100  8F  B0 000A9          MOVW    #256, UNSOLPEND           ; 0622
                                      04 000AF          RET                               ; 0605
                 0C  B7           62  0E 000B0 5$:      INSQUE  (R2), @IOQUEUE+4          ; 0626
                                      04 000B4          RET                               ; 0627

; Routine Size:  181 bytes,    Routine Base:  $CODE$ + 030E
;   635         0628  1 ROUTINE READPROMPT(BUFFER): NOVALUE =
;   636         0629  1 !++
;   637         0630  1 !
;   638         0631  1 ! Functional Description:
;   639         0632  1 !       Perform a readprompt QIO function to the terminal.
;   640         0633  1 !
;   641         0634  1 ! Calling Sequence:
;   642         0635  1 !       standard
;   643         0636  1 !
;   644         0637  1 ! Input Parameters:
;   645         0638  1 !       BUFFER = address of the link buffer
;   646         0639  1 !
;   647         0640  1 ! Implicit Inputs:
;   648         0641  1 !       CURRENTIO
;   649         0642  1 !       INDDATA
;   650         0643  1 !
;   651         0644  1 ! Output Parameters:
;   652         0645  1 !       none
;   653         0646  1 !
;   654         0647  1 ! Implicit Outputs:
;   655         0648  1 !       CURRENTIO
;   656         0649  1 !       UNSOLPEND
;   657         0650  1 !       READINPROG
;   658         0651  1 !       IOQUEUE
;   659         0652  1 !
;   660         0653  1 ! Routines Called:
;   661         0654  1 !       READ
;   662         0655  1 !
;   663         0656  1 ! Routine Value:
;   664         0657  1 !       none
;   665         0658  1 !
;   666         0659  1 ! Signals:
;   667         0660  1 !       none
;   668         0661  1 !
;   669         0662  1 ! Side Effects:
;   670         0663  1 !       An I/O may be queued for later action.
;   671         0664  1 !
;   672         0665  1 !--
;   673         0666  2         BEGIN
;   674         0667  2         MAP BUFFER: REF RTP_BUF;
;   675         0668  2         LOCAL
;   676         0669  2                 FUNCTION;
;   677         0670  2         IF .INDDATA NEQ 0  THEN
;   678         0671  3                 BEGIN                   ! WE HAVE INDIRECT COMMAND FILE DATA
;   679         0672  3                 READ (.BUFFER);         ! GET THE DATA
;   680         0673  3                 RETURN;
;   681         0674  2                 END;
;   682         0675  2         IF .CURRENTIO EQL 0  THEN
;   683         0676  3                 BEGIN
;   684         0677  3                 IF (.BUFFER[RTP_MOD] AND RM_RBN) NEQ 0  THEN
;   685         0678  3                         FUNCTION = IO$_TTYREADPALL      ! BINARY
;   686         0679  3                 ELSE
;   687         0680  3                         FUNCTION = IO$_READPROMPT;      ! NORMAL
;   688         0681  3                 RETSTATUS =
;   689       P 0682  3                 $QIO    (CHAN = .RDWRTCHAN,     ! READPROMPT TO THE TERMINAL
;   690       P 0683  3                          FUNC = .FUNCTION+MAPMODIFIER(.BUFFER[RTP_MOD]),
;   691       P 0684  3                          IOSB = BUFFER[RTP_IOS],
;   692      P 0685  3                       ASTADR = QIODONE,
;   693      P 0686  3                       ASTPRM = .BUFFER,
;   694      P 0687  3                       P1 = BUFFER[RTP_DAT],
;   695      P 0688  3                       P2 = .BUFFER[RTP_RCT],
;   696      P 0689  3                       P4 = TERMINATOR(.BUFFER[RTP_MOD]),
;   697      P 0690  3                       P5 = BUFFER[RTP_DAT],
;   698        0691  3                       P6 = .BUFFER[RTP_TCT]);
;   699        0692  3                QUIT_ON_ERROR;
;   700        0693  3                CURRENTIO = .BUFFER;
;   701        0694  3                UNSOLPEND = 0;          ! NO MORE DATA PENDING
;   702        0695  3                READINPROG = 1;
;   703        0696  3                END
;   704        0697  2          ELSE
;   705        0698  2                INSQUE(.BUFFER,.IOQUEUE[1]);    ! QUEUE IT FOR LATER
;   706        0699  1          END;



                                              003C 00000 READPROMPT:
                                                                  .WORD   Save R2,R3,R4,R5                            ; 0628
                      55 00000000G  00   9E 00002                 MOVAB   RETSTATUS, R5
                      54     0000'  CF   9E 00009                 MOVAB   CURRENTIO, R4
                                04  A4   D5 0000E                 TSTL    INDDATA                                     ; 0670
                                09  13      00011                 BEQL    1$
                                04  AC   DD 00013                 PUSHL   BUFFER                                      ; 0672
                FF30  CF            01   FB 00016                 CALLS   #1, READ
                                         04 0001B                 RET                                                 ; 0671
                      52        04  AC   D0 0001C 1$:             MOVL    BUFFER, R2                                  ; 0677
                                    64   D5 00020                 TSTL    CURRENTIO                                   ; 0675
                                    77   12 00022                 BNEQ    5$
      05         11   A2            02   E1 00024                 BBC     #2, 17(R2), 2$                              ; 0677
                      53            3B   D0 00029                 MOVL    #59, FUNCTION                               ; 0678
                                    03   11 0002C                 BRB     3$
                      53            37   D0 0002E 2$:             MOVL    #55, FUNCTION                               ; 0680
                      7E        18  A2   3C 00031 3$:             MOVZWL  24(R2), -(SP)                               ; 0691
                                1A  A2   9F 00035                 PUSHAB  26(R2)
                      7E        11  A2   9A 00038                 MOVZBL  17(R2), -(SP)
               0000V  CF            01   FB 0003C                 CALLS   #1, TERMINATOR
                                    50   DD 00041                 PUSHL   R0
                                    7E   D4 00043                 CLRL    -(SP)
                      7E        16  A2   3C 00045                 MOVZWL  22(R2), -(SP)
                                1A  A2   9F 00049                 PUSHAB  26(R2)
                                    52   DD 0004C                 PUSHL   R2
                             0000V  CF   9F 0004E                 PUSHAB  QIODONE
                                08  A2   9F 00052                 PUSHAB  8(R2)
                      7E        11  A2   9A 00055                 MOVZBL  17(R2), -(SP)
               0000V  CF            01   FB 00059                 CALLS   #1, MAPMODIFIER
                                  6043   9F 0005E                 PUSHAB  (R0)[FUNCTION]
                      7E 00000000G  00   3C 00061                 MOVZWL  RDWRTCHAN, -(SP)
                                    7E   D4 00068                 CLRL    -(SP)
           00000000G  00            0C   FB 0006A                 CALLS   #12, SYS$QIO
                      65            50   D0 00071                 MOVL    R0, RETSTATUS
                      1A            65   E8 00074                 BLBS    RETSTATUS, 4$
                                    7E   D4 00077                 CLRL    -(SP)
           00000000G  00            01   FB 00079                 CALLS   #1, SYS$SETAST
```

```
                        00000000G  00              01  90 00080           MOVB    #1, WAKEFLAG                                   ;
                                                   7E  7C 00087           CLRQ    -(SP)                                          ;
                        00000000G  00              02  FB 00089           CALLS   #2, SYS$WAKE                                   ;
                                                       04 00090           RET                                                    ;
                                   64              52  D0 00091 4$:       MOVL    R2, CURRENTIO                                  ; 0693
                              FA   A4      0100    8F  B0 00094           MOVW    #256, UNSOLPEND                                ; 0694
                                                       04 0009A           RET                                                    ; 0675
                              0C   B4              62  0E 0009B 5$:       INSQUE  (R2), @IOQUEUE+4                               ; 0698
                                                       04 0009F           RET                                                    ; 0699

; Routine Size:  160 bytes,    Routine Base:  $CODE$ + 03C3
```

```
ROUTINE QIODONE(BUFFER): NOVALUE =
!++
!
! Functional Description:
!         Send a message on the link when a terminal QIO completes.
!         Interpret the "EXIT RMT" command to exit this program.
!
! Calling Sequence:
!         standard
!
! Input Parameters:
!         BUFFER = address of the link buffer.
!
! Implicit Inputs:
!         none
!
! Output Parameters:
!         none
!
! Implicit Outputs:
!         READINPROG
!         CURRENTIO
!         RETSTATUS
!
! Routines Called:
!         NEXTIO
!         FREEBUF
!
! Routine Value:
!         none
!
! Signals:
!         none
!
! Side Effects:
!         If there is an error on the write to the link, a $WAKE will be issued
!         to cause this program to abort.
!
!--
        BEGIN
        MAP BUFFER: REF RTP_BUF;
        LOCAL
                COUNT: ;
        IF .BUFFER[RTP_IOS] AND 1  THEN
                BUFFER[RTP_STS] = RS_SFC            ! GOOD STATUS
        ELSE
                BUFFER[RTP_STS] = RS_FPE;           ! ERROR
        BUFFER[RTP_FLG] = 0;
        BUFFER[RTP_TCT] = 0;
        COUNT = 10;                                 ! MINIMUM MESSAGE LENGTH
        IF .BUFFER[RTP_FNC] NEQ RF_WTD  THEN
                BEGIN           ! IT WAS A READ
                COUNT = .COUNT + .BUFFER[RTP_IOC];      ! ADD THE DATA
                IF (.BUFFER[RTP_MOD] AND (RM_RTC+RM_RNE)) EQL 0  THEN
                        BEGIN           ! CHECK FOR A CARRIAGE RETURN
                        IF .(.BUFFER+.COUNT+16)<0,8> EQL 13  THEN
                                $QIOW   (CHAN = .RDWRTCHAN,     ! ECHO CAR-RET
;   765       P 0757  4                                      FUNC = IO$_WRITEVBLK,
;   766       P 0758  4                                      P1 = UPLIT(13),
;   767         0759  4                                      P2 = 1);
;   768         0760  3                      END;
;   769         0761  3              IF .BUFFER[RTP_IOC] EQL 8  THEN           ! COULD BE AN EXIT
;   770         0762  4                      BEGIN
;   771         0763  4                      IF CH$EQL(8,BUFFER[RTP_DAT],8,UPLIT('EXIT RMT'))  THEN
;   772         0764  4                              QUIT;           ! GET OUT
;   773         0765  4                      IF CH$EQL(8,BUFFER[RTP_DAT],8,UPLIT('exit rmt'))  THEN
;   774         0766  4                              QUIT;           ! GET OUT
;   775         0767  3                      END;
;   776         0768  3              IF .BUFFER[RTP_RCT] NEQ .BUFFER[RTP_IOC]  THEN
;   777         0769  3                      COUNT = .COUNT + 1                ! ADD TERMINATOR
;   778         0770  3              ELSE
;   779         0771  3                      IF .COUNT NEQ 128  THEN
;   780         0772  4                              BEGIN   ! THIS IS A KLUGE FOR RSX
;   781         0773  4                              COUNT = .COUNT+1;
;   782         0774  4                              (.BUFFER+15+.COUNT)<0,8> = 0;   ! ADD A NULL
;   783         0775  3                              END;
;   784         0776  3              BUFFER[RTP_RCT] = .BUFFER[RTP_IOC];       ! COUNT
;   785         0777  3              READINPROG = 0; ! DONE
;   786         0778  2              END;
;   787         0779  2      IF ((.BUFFER[RTP_MOD] AND RM_WBT) EQL 0)  AND
;   788         0780  2              (.BUFFER[RTP_FNC] NEQ RF_RSC)  THEN
;   789         0781  2              CURRENTIO = 0;               ! CURRENT I/O HAS COMPLETED
;   790         0782  3      IF ((.BUFFER[RTP_FNC] EQL RF_WTD) AND
;   791         0783  3                      ((.BUFFER[RTP_MOD] AND RM_NWC) NEQ 0))
;   792         0784  2                      OR (.BUFFER[RTP_IOS] EQL SS$_ABORT)  THEN
;   793         0785  2              FREEBUF(.BUFFER)
;   794         0786  2      ELSE
;   795         0787  3              BEGIN
;   796         0788  3              RETSTATUS =
;   797       P 0789  3              $QIO    (CHAN = .LINKCHAN,        ! WRITE TO LINK
;   798       P 0790  3                      FUNC = IO$_WRITEVBLK,
;   799       P 0791  3                      IOSB = BUFFER[RTP_IOS],
;   800       P 0792  3                      ASTADR = LINKWRTDONE,
;   801       P 0793  3                      ASTPRM = .BUFFER,
;   802       P 0794  3                      P1 = BUFFER[RTP_FNC],
;   803         0795  3                      P2 = .COUNT);
;   804         0796  3              IF .RETSTATUS EQL SS$_ABORT  THEN
;   805         0797  3                      RETURN;         ! Link gone - mailbox msg will tell why
;   806         0798  3              QUIT_ON_ERROR;
;   807         0799  2              END;
;   808         0800  2              NEXTIO();                ! CHECK FOR A PENDING I/O
;   809         0801  1      END;


                                                                    .PSECT  $PLIT$,NOWRT,NOEXE,2

                                          0000000D  00030 P.AAD:    .LONG   13
                          54  4D  52  20  54  49  58  45  00034 P.AAE:    .ASCII  \EXIT RMT\
                          74  6D  72  20  74  69  78  65  0003C P.AAF:    .ASCII  \exit rmt\


                                                                    .PSECT  $CODE$,NOWRT,2
```

```
                                           007C 00000 QIODONE:.WORD     Save R2,R3,R4,R5,R6              ; 0700
                        54         04    AC  D0 00002          MOVL     BUFFER, R4                       ; 0743
                        56         10    A4  9E 00006          MOVAB    16(R4), R6                       ; 0744
                        05         08    A4  E9 0000A          BLBC     8(R4), 1$                        ; 0743
                                   03    A6  94 0000E          CLRB     3(R6)                            ; 0744
                                         04  11 00011          BRB      2$                               ;
                    03  A6               01  90 00013 1$:      MOVB     #1, 3(R6)                        ; 0746
                                   02    A6  94 00017 2$:      CLRB     2(R6)                            ; 0747
                                   18    A4  B4 0001A          CLRW     24(R4)                           ; 0748
                        55               0A  D0 0001D          MOVL     #10, COUNT                       ; 0749
                        03               66  91 00020          CMPB     (R6), #3                         ; 0750
                                         6E  13 00023          BEQL     8$                               ;
                        50         0A    A4  3C 00025          MOVZWL   10(R4), R0                       ; 0752
                        55               50  C0 00029          ADDL2    R0, COUNT                        ;
                        18         01    A6  93 0002C          BITB     1(R6), #24                       ; 0753
                                         26  12 00030          BNEQ     3$                               ;
                        0D         10  A544  91 00032          CMPB     16(COUNT)[R4], #13               ; 0755
                                         1F  12 00037          BNEQ     3$                               ;
                                         7E  7C 00039          CLRQ     -(SP)                            ; 0759
                                         7E  7C 0003B          CLRQ     -(SP)                            ;
                                         01  DD 0003D          PUSHL    #1                               ;
                                0000'    CF  9F 0003F          PUSHAB   P.AAD                            ;
                                         7E  7C 00043          CLRQ     -(SP)                            ;
                        7E               30  7D 00045          MOVQ     #48, -(SP)                       ;
                        7E  00000000G    00  3C 00048          MOVZWL   RDWRTCHAN, -(SP)                 ;
                                         7E  D4 0004F          CLRL     -(SP)                            ;
             00000000G  00               0C  FB 00051          CALLS    #12, SYS$QIOW                    ;
                        08         0A    A4  B1 00058 3$:      CMPW     10(R4), #8                       ; 0761
                                         12  12 0005C          BNEQ     5$                               ;
0000'   CF          1A  A4               08  29 0005E          CMPC3    #8, 26(R4), P.AAE                ; 0763
                                         07  13 00065          BEQL     4$                               ;
0000'   CF          1A  A4               08  29 00067          CMPC3    #8, 26(R4), P.AAF                ; 0765
                                         7A  13 0006E 4$:      BEQL     13$                              ;
                    0A  A4         16    A4  B1 00070 5$:      CMPW     22(R4), 10(R4)                   ; 0768
                                         04  13 00075          BEQL     6$                               ;
                                         55  D6 00077          INCL     COUNT                            ; 0769
                                         0F  11 00079          BRB      7$                               ;
              00000080  8F               55  D1 0007B 6$:      CMPL     COUNT, #128                      ; 0771
                                         06  13 00082          BEQL     7$                               ;
                                         55  D6 00084          INCL     COUNT                            ; 0773
                                   0F  A544  94 00086          CLRB     15(COUNT)[R4]                    ; 0774
                    16  A4         0A    A4  B0 0008A 7$:      MOVW     10(R4), 22(R4)                   ; 0776
                                0000'    CF  94 0008F          CLRB     READINPROG                       ; 0777
        09              66               09  E0 00093 8$:      BBS      #9, (R6), 9$                     ; 0779
                        07               66  91 00097          CMPB     (R6), #7                         ; 0780
                                         04  13 0009A          BEQL     9$                               ;
                                0000'    CF  D4 0009C          CLRL     CURRENTIO                        ; 0781
                        03               66  91 000A0 9$:      CMPB     (R6), #3                         ; 0782
                                         04  12 000A3          BNEQ     10$                              ;
                                         66  B5 000A5          TSTW     (R6)                             ; 0783
                                         06  19 000A7          BLSS     11$                              ;
                        2C         08    A4  B1 000A9 10$:     CMPW     8(R4), #44                       ; 0784
                                         09  12 000AD          BNEQ     12$                              ;
                                         54  DD 000AF 11$:     PUSHL    R4                               ; 0785
                  FC94  CF               01  FB 000B1          CALLS    #1, FREEBUF                      ;
                                         4C  11 000B6          BRB      14$                              ;
```

```
                                          7E   7C 000B8 12$:    CLRQ     -(SP)                                        ; 0795
                                          7E   7C 000BA         CLRQ     -(SP)                                        ;
                                          55   DD 000BC         PUSHL    COUNT                                        ;
                                 0050     8F   BB 000BE         PUSHR    #^M<R4,R6>                                   ;
                                 0000V    CF   9F 000C2         PUSHAB   LINKWRTDONE                                  ;
                                    08    A4   9F 000C6         PUSHAB   8(R4)                                        ;
                                          30   DD 000C9         PUSHL    #48                                          ;
                       7E  00000000G      00   3C 000CB         MOVZWL   LINKCHAN, -(SP)                              ;
                                          7E   D4 000D2         CLRL     -(SP)                                        ;
              00000000G  00               0C   FB 000D4         CALLS    #12, SYS$QIO                                 ;
              00000000G  00               50   D0 000DB         MOVL     R0, RETSTATUS                                ;
                         2C               50   D1 000E2         CMPL     R0, #44                                      ; 0796
                                          22   13 000E5         BEQL     15$                                          ;
                         1A               50   E8 000E7         BLBS     R0, 14$                                      ; 0797
                                          7E   D4 000EA 13$:    CLRL     -(SP)                                        ;
              00000000G  00               01   FB 000EC         CALLS    #1, SYS$SETAST                               ;
              00000000G  00               01   90 000F3         MOVB     #1, WAKEFLAG                                 ;
                                          7E   7C 000FA         CLRQ     -(SP)                                        ;
              00000000G  00               02   FB 000FC         CALLS    #2, SYS$WAKE                                 ;
                                               04 00103         RET                                                   ;
                  0000V  CF               00   FB 00104 14$:    CALLS    #0, NEXTIO                                   ; 0800
                                               04 00109 15$:    RET                                                   ; 0801

; Routine Size:  266 bytes,    Routine Base:  $CODE$ + 0463


;  810          0802  1
;  812        0803  1 ROUTINE LINKWRTDONE(BUFFER): NOVALUE =
;  813        0804  1 !++
;  814        0805  1 !
;  815        0806  1 ! Functional Description:
;  816        0807  1 !       Free the link buffer when a write to the link completes
;  817        0808  1 !
;  818        0809  1 ! Calling Sequence:
;  819        0810  1 !       standard
;  820        0811  1 !
;  821        0812  1 ! Input Parameters:
;  822        0813  1 !       BUFFER = address of the link buffer.
;  823        0814  1 !
;  824        0815  1 ! Implicit Inputs:
;  825        0816  1 !       none
;  826        0817  1 !
;  827        0818  1 ! Output Parameters:
;  828        0819  1 !       RETSTATUS
;  829        0820  1 !
;  830        0821  1 ! Implicit Outputs:
;  831        0822  1 !       none
;  832        0823  1 !
;  833        0824  1 ! Routines Called:
;  834        0825  1 !       FREEBUF
;  835        0826  1 !
;  836        0827  1 ! Routine Value:
;  837        0828  1 !       none
;  838        0829  1 !
;  839        0830  1 ! Signals:
;  840        0831  1 !       none
;  841        0832  1 !
;  842        0833  1 ! Side Effects:
;  843        0834  1 !       If there was an error on the write to the link, a $WAKE is issued to
;  844        0835  1 !       cause the program to abort.
;  845        0836  1 !
;  846        0837  1 !--
;  847        0838  2         BEGIN
;  848        0839  2         MAP BUFFER: REF RTP_BUF;
;  849        0840  2         RETSTATUS = .BUFFER[RTP_IOS];
;  850        0841  2         IF .RETSTATUS EQL SS$_ABORT  THEN
;  851        0842  2                 RETURN;         ! Link gone - mailbox msg will tell why
;  852        0843  2         QUIT_ON_ERROR;
;  853        0844  2         FREEBUF(.BUFFER);       ! WE NO LONGER NEED THE BUFFER
;  854        0845  1         END;



                                     000C 00000 LINKWRTDONE:
                                                      .WORD   Save R2,R3                              ; 0803
                   53 00000000G   00  9E 00002        MOVAB   RETSTATUS, R3
                   52         04  AC  D0 00009        MOVL    BUFFER, R2                              ; 0840
                   63         08  A2  3C 0000D        MOVZWL  8(R2), RETSTATUS
                   50             63  D0 00011        MOVL    RETSTATUS, R0                           ; 0841
                   2C             50  D1 00014        CMPL    R0, #44
                                  24  13 00017        BEQL    2$
                   1A             50  E8 00019        BLBS    R0, 1$                                  ; 0842
```

```
                                         7E  D4 0001C          CLRL    -(SP)                                              ;
                     00000000G  00       01  FB 0001E          CALLS   #1, SYS$SETAST                                     ;
                     00000000G  00       01  90 00025          MOVB    #1, WAKEFLAG                                       ;
                                         7E  7C 0002C          CLRQ    -(SP)                                              ;
                     00000000G  00       02  FB 0002E          CALLS   #2, SYS$WAKE                                       ;
                                             04 00035          RET                                                        ;
                                         52  DD 00036 1$:      PUSHL   R2                                                 ; 0844
                          FC03  CF       01  FB 00038          CALLS   #1, FREEBUF                                        ;
                                             04 0003D 2$:      RET                                                        ; 0845

; Routine Size:  62 bytes,    Routine Base:  $CODE$ + 056D
```

```
1 ROUTINE UNSDATENBL(BUFFER): NOVALUE =
1 !++
1 !
1 ! Functional Description:
1 !       Enable or disable unsolicited data to the RSX system.
1 !
1 ! Calling Sequence:
1 !       standard
1 !
1 ! Input Parameters:
1 !       BUFFER = address of the link buffer
1 !
1 ! Implicit Inputs:
1 !       UNSOLPEND
1 !       INDDATA
1 !
1 ! Output Parameters:
1 !       none
1 !
1 ! Implicit Outputs:
1 !       UNSOLENBLFLG
1 !
1 ! Routines Called:
1 !       TERMMBXMSG
1 !       FREEBUF
1 !       READ
1 !
1 ! Routine Value:
1 !       none
1 !
1 ! Signals:
1 !       none
1 !
1 ! Side Effects:
1 !       If unsolicited input is enabled, any pending data is read.
1 !
1 !--
2       BEGIN
2       MAP BUFFER: REF RTP_BUF;
2       LOCAL
2               NEWBUF: REF VECTOR;
2       IF .BUFFER[RTP_FLG] NEQ RM_TUI  THEN
3               BEGIN
3               IF .INDDATA NEQ 0  THEN
4                       BEGIN                   ! THERE IS INDIRECT FILE DATA
4                       NEWBUF = GETBUF();      ! GET A SUBSTITUTE BUFFER
4                       CH$MOVE(40,.BUFFER,.NEWBUF);  ! COPY HEADER + SOME
4                       READ (.NEWBUF);         ! GET IT
3                       END;
3               UNSOLENBLFLG = .BUFFER;         ! ENABLE
3               IF .UNSOLPEND NEQ 0  THEN
3                       TERMMBXMSG();           ! DATA ALREADY PENDING
3               END
2       ELSE
3               BEGIN                           ! DISABLE
3               FREEBUF(.BUFFER);               ! NO LONGER NEED BUFFER
3               IF .UNSOLENBLFLG NEQ 0 THEN
```

```
;   913           0903  4                     BEGIN
;   914           0904  4                     FREEBUF(.UNSOLENBLFLG); ! UNSOL DATA BUFFER
;   915           0905  4                     UNSOLENBLFLG = 0;
;   916           0906  3                     END;
;   917           0907  2               END;
;   918           0908  1         END;




                                              01FC 00000 UNSDATENBL:
                                                               .WORD   Save R2,R3,R4,R5,R6,R7,R8                          ; 0846
                    58      0000'   CF   9E 00002              MOVAB   UNSOLENBLFLG, R8                                    ;
                    56         04   AC   D0 00007              MOVL    BUFFER, R6                                          ; 0887
              80    8F         12   A6   91 0000B              CMPB    18(R6), #128                                        ;
                                    26   13 00010              BEQL    2$                                                  ;
                               10   A8   D5 00012              TSTL    INDDATA                                             ; 0889
                                    13   13 00015              BEQL    1$                                                  ;
            FBC2    CF              00   FB 00017              CALLS   #0, GETBUF                                          ; 0891
                    57              50   D0 0001C              MOVL    R0, NEWBUF                                          ;
        67          66              28   28 0001F              MOVC3   #40, (R6), (NEWBUF)                                 ; 0892
                                    57   DD 00023              PUSHL   NEWBUF                                              ; 0893
            FD39    CF              01   FB 00025              CALLS   #1, READ                                            ;
                    68              56   D0 0002A 1$:          MOVL    R6, UNSOLENBLFLG                                    ; 0895
                               06   A8   95 0002D              TSTB    UNSOLPEND                                           ; 0896
                                    1B   13 00030              BEQL    3$                                                  ;
           0000V    CF              00   FB 00032              CALLS   #0, TERMMBXMSG                                      ; 0897
                                         04 00037              RET                                                         ; 0887
                                    56   DD 00038 2$:          PUSHL   R6                                                  ; 0901
            FBC3    CF              01   FB 0003A              CALLS   #1, FREEBUF                                         ;
                    50              68   D0 0003F              MOVL    UNSOLENBLFLG, R0                                    ; 0902
                                    09   13 00042              BEQL    3$                                                  ;
                                    50   DD 00044              PUSHL   R0                                                  ; 0904
            FBB7    CF              01   FB 00046              CALLS   #1, FREEBUF                                         ;
                                    68   D4 0004B              CLRL    UNSOLENBLFLG                                        ; 0905
                                         04 0004D 3$:          RET                                                         ; 0908

; Routine Size:  78 bytes,    Routine Base:  $CODE$ + 05AB
```

```
1 ROUTINE TERMMBXMSG: NOVALUE =
1 !++
1 !
1 ! Functional Description:
1 !       Handle messages from the terminal mailbox indicating unsolicited data
1 !       or hangup.
1 !
1 ! Calling Sequence:
1 !       standard
1 !
1 ! Input Parameters:
1 !       none
1 !
1 ! Implicit Inputs:
1 !       READINPROG
1 !       UNSOLENBLFLG
1 !       ATTACHFLAG
1 !       SINGLEFLAG
1 !
1 ! Output Parameters:
1 !       none
1 !
1 ! Implicit Outputs:
1 !       UNSOLENBLFLG
1 !       SINGLEINPROG
1 !       UNSOLPEND
1 !
1 ! Routines Called:
1 !       GETBUF
1 !
1 ! Routine Value:
1 !       none
1 !
1 ! Signals:
1 !       none
1 !
1 ! Side Effects:
1 !       In the case of unsolicited input, a read to the terminal is initiated
1 !       if either unsolicited input or single character mode is enabled.  A
1 !       new read to the terminal mailbox is also initiated.
1 !       In the case of a hangup, a $WAKE is issued to cause the program to
1 !       abort.
1 !
1 !--
2       BEGIN
2       MAP UNSOLENBLFLG: REF VECTOR;
2       LOCAL
2               NEWBUF: REF VECTOR;
2       IF .TERMMBXDATA[0] EQL MSG$_TRMUNSOLIC  THEN
3          BEGIN
3          IF .READINPROG EQL 0  THEN
4               BEGIN
4               IF (.UNSOLENBLFLG NEQ 0)  AND
4                               ((.ATTACHFLAG OR .SINGLEFLAG) EQL 0)  THEN
5                       BEGIN
5                       READ(.UNSOLENBLFLG);    ! READ IT
5                       NEWBUF = GETBUF();      ! GET ANOTHER BUFFER
```

```
;  977          0966  5                     NEWBUF[4] = .UNSOLENBLFLG[4];
;  978          0967  5                     NEWBUF[5] = .UNSOLENBLFLG[5];
;  979          0968  5                     UNSOLENBLFLG = .NEWBUF;
;  980          0969  5                     END
;  981          0970  4             ELSE IF .SINGLEFLAG NEQ 0  THEN
;  982          0971  5                     BEGIN               ! READ A SINGLE CHARACTER
;  983          0972  5                     RETSTATUS =
;  984        P 0973  5                     $QIO     (CHAN = .RDWRTCHAN,
;  985        P 0974  5                               FUNC = IO$_READVBLK+IO$M_BINARY+
;  986        P 0975  5                                      MAPMODIFIER(.SINGLEFLAG[RTP_MOD]),
;  987        P 0976  5                               IOSB = SINGLEFLAG[RTP_IOS],
;  988        P 0977  5                               ASTADR = ONECHAR,
;  989        P 0978  5                               ASTPRM = .SINGLEFLAG,
;  990        P 0979  5                               P1 = SINGLEFLAG[RTP_DAT],
;  991          0980  5                               P2 = 1);
;  992          0981  5                     QUIT_ON_ERROR;
;  993          0982  5                     SINGLEINPROG = 1;
;  994          0983  5                     UNSOLPEND = 0;              ! NO MORE DATA PENDING
;  995          0984  5                     END
;  996          0985  4             ELSE
;  997          0986  4                     UNSOLPEND = 1;              ! UNSOLICITED DATA PENDING
;  998          0987  3             END;
;  999          0988  3             RETSTATUS =
; 1000        P 0989  3         $QIO (CHAN = .TERMMBXCHAN,   ! DO IT AGAIN
; 1001        P 0990  3               FUNC = IO$_READVBLK,
; 1002        P 0991  3               ASTADR = TERMMBXMSG,
; 1003        P 0992  3               P1 = TERMMBXDATA,
; 1004          0993  3               P2 = 8);
; 1005          0994  3         QUIT_ON_ERROR;
; 1006          0995  3         END
; 1007          0996  2     ELSE
; 1008          0997  3             QUIT    ! HANGUP - SO QUIT
; 1009          0998  1     END;



                                   001C 00000 TERMMBXMSG:
                                                          .WORD   Save R2,R3,R4                          ; 0909
          54 00000000G   00   9E 00002                    MOVAB   SYS$QIO, R4                            ;
          53 00000000G   00   9E 00009                    MOVAB   RETSTATUS, R3                          ;
          52      0000'  CF   9E 00010                    MOVAB   UNSOLENBLFLG, R2                       ;
          01        F8   A2   B1 00015                    CMPW    TERMMBXDATA, #1                        ; 0957
                         03   13 00019                    BEQL    1$                                     ;
                       0091   31 0001B                    BRW     5$                                     ;
                    07   A2   95 0001E  1$:               TSTB    READINPROG                             ; 0959
                         68   12 00021                    BNEQ    4$                                     ;
          51             62   D0 00023                    MOVL    UNSOLENBLFLG, R1                       ; 0961
                         23   13 00026                    BEQL    2$                                     ;
          50        04   A2   9A 00028                    MOVZBL  ATTACHFLAG, R0                         ; 0962
          50        08   A2   C8 0002C                    BISL2   SINGLEFLAG, R0                         ;
                         19   12 00030                    BNEQ    2$                                     ;
                         51   DD 00032                    PUSHL   R1                                     ; 0964
  FCDC    CF             01   FB 00034                    CALLS   #1, READ                               ;
  FB52    CF             00   FB 00039                    CALLS   #0, GETBUF                             ; 0965
          51             62   D0 0003E                    MOVL    UNSOLENBLFLG, R1                       ; 0966
```

```
                 10    A0         10    A1  7D 00041          MOVQ    16(R1), 16(NEWBUF)                                  ;
                       62               50  D0 00046          MOVL    NEWBUF, UNSOLENBLFLG                                ; 0968
                                        40  11 00049          BRB     4$                                                  ; 0961
                       50         08    A2  D0 0004B 2$:      MOVL    SINGLEFLAG, R0                                      ; 0970
                                        36  13 0004F          BEQL    3$                                                  ;
                                        7E  7C 00051          CLRQ    -(SP)                                               ; 0980
                                        7E  7C 00053          CLRQ    -(SP)                                               ;
                                        01  DD 00055          PUSHL   #1                                                  ;
                                  1A    A0  9F 00057          PUSHAB  26(R0)                                              ;
                                        50  DD 0005A          PUSHL   R0                                                  ;
                               0000V    CF  9F 0005C          PUSHAB  ONECHAR                                             ;
                                  08    A0  9F 00060          PUSHAB  8(R0)                                               ;
                       7E         11    A0  9A 00063          MOVZBL  17(R0), -(SP)                                       ;
              0000V    CF               01  FB 00067          CALLS   #1, MAPMODIFIER                                     ;
                                  71    A0  9F 0006C          PUSHAB  113(R0)                                             ;
                       7E  00000000G    00  3C 0006F          MOVZWL  RDWRTCHAN, -(SP)                                    ;
                                        7E  D4 00076          CLRL    -(SP)                                               ;
                       64               0C  FB 00078          CALLS   #12, SYS$QIO                                        ;
                       63               50  D0 0007B          MOVL    R0, RETSTATUS                                       ;
                       2E               63  E9 0007E          BLBC    RETSTATUS, 5$                                       ;
                 05    A2               01  B0 00081          MOVW    #1, SINGLEINPROG                                    ; 0982
                                        04  11 00085          BRB     4$                                                  ; 0970
                 06    A2               01  90 00087 3$:      MOVB    #1, UNSOLPEND                                       ; 0986
                                        7E  7C 0008B 4$:      CLRQ    -(SP)                                               ; 0993
                                        7E  7C 0008D          CLRQ    -(SP)                                               ;
                                        08  DD 0008F          PUSHL   #8                                                  ;
                                  F8    A2  9F 00091          PUSHAB  TERMMBXDATA                                         ;
                                        7E  D4 00094          CLRL    -(SP)                                               ;
                                FF66    CF  9F 00096          PUSHAB  TERMMBXMSG                                          ;
                       7E               31  7D 0009A          MOVQ    #49, -(SP)                                          ;
                       7E  00000000G    00  3C 0009D          MOVZWL  TERMMBXCHAN, -(SP)                                  ;
                                        7E  D4 000A4          CLRL    -(SP)                                               ;
                       64               0C  FB 000A6          CALLS   #12, SYS$QIO                                        ;
                       63               50  D0 000A9          MOVL    R0, RETSTATUS                                       ;
                       19               63  E8 000AC          BLBS    RETSTATUS, 6$                                       ;
                                        7E  D4 000AF 5$:      CLRL    -(SP)                                               ; 0996
          00000000G    00               01  FB 000B1          CALLS   #1, SYS$SETAST                                      ;
          00000000G    00               01  90 000B8          MOVB    #1, WAKEFLAG                                        ;
                                        7E  7C 000BF          CLRQ    -(SP)                                               ;
          00000000G    00               02  FB 000C1          CALLS   #2, SYS$WAKE                                        ;
                                            04 000C8 6$:      RET                                                         ; 0998

; Routine Size:  201 bytes,    Routine Base:  $CODE$ + 05F9
```

```
: 1011           0999  1 ROUTINE BROADCAST(BUFFER): NOVALUE =
: 1012           1000  1 !++
: 1013           1001  1 !
: 1014           1002  1 ! Functional Description:
: 1015           1003  1 !        Issue a broadcast function to the terminal.
: 1016           1004  1 !
: 1017           1005  1 ! Calling Sequence:
: 1018           1006  1 !        standard
: 1019           1007  1 !
: 1020           1008  1 ! Input Parameters:
: 1021           1009  1 !        BUFFER = address of the link buffer
: 1022           1010  1 !
: 1023           1011  1 ! Implicit Inputs:
: 1024           1012  1 !        none
: 1025           1013  1 !
: 1026           1014  1 ! Output Parameters:
: 1027           1015  1 !        none
: 1028           1016  1 !
: 1029           1017  1 ! Implicit Outputs:
: 1030           1018  1 !        none
: 1031           1019  1 !
: 1032           1020  1 ! Routines Called:
: 1033           1021  1 !        QIODONE
: 1034           1022  1 !
: 1035           1023  1 ! Routine Value:
: 1036           1024  1 !        none
: 1037           1025  1 !
: 1038           1026  1 ! Signals:
: 1039           1027  1 !        none
: 1040           1028  1 !
: 1041           1029  1 ! Side Effects:
: 1042           1030  1 !        none
: 1043           1031  1 !
: 1044           1032  1 !--
: 1045           1033  2         BEGIN
: 1046           1034  2         MAP BUFFER: REF RTP_BUF;
: 1047           1035  2         LOCAL
: 1048           1036  2                 BRDCSTDESC:     VECTOR[2];
: 1049           1037  2         BRDCSTDESC[0] = .BUFFER[RTP_TCT];         ! COUNT
: 1050           1038  2         BRDCSTDESC[1] = BUFFER[RTP_DAT];          ! DATA ADDRESS
: 1051         P 1039  2         BUFFER[RTP_IOS] = $BRDCST (MSGBUF = BRDCSTDESC, ! BROADCAST IT
: 1052           1040  2                                 DEVNAM = TTYDESC);
: 1053           1041  2         QIODONE(.BUFFER);                         ! CLEAN UP
: 1054           1042  1         END;


                                                                   .EXTRN  SYS$BRDCST

                                            0004 00000 BROADCAST:
                                                                   .WORD   Save R2                                       ; 0999
                   5E             04   C2 00002                    SUBL2   #4, SP                                        :
                   52       04    AC   D0 00005                    MOVL    BUFFER, R2                                    : 1037
                   7E       18    A2   3C 00009                    MOVZWL  24(R2), BRDCSTDESC                            :
           04      AE       1A    A2   9E 0000D                    MOVAB   26(R2), BRDCSTDESC+4                          : 1038
                                  20   DD 00012                    PUSHL   #32                                           : 1040
                                  7E   D4 00014                    CLRL    -(SP)                                         :
                                    00000000G  00   9F 00016          PUSHAB  TTYDESC                                     ;
                                           0C  AE   9F 0001C          PUSHAB  BRDCSTDESC                                  ;
                         00000000G  00          04   FB 0001F          CALLS   #4, SYS$BRDCST                              ;
                                08  A2          50   B0 00026          MOVW    R0, 8(R2)                                   ;
                                                52   DD 0002A          PUSHL   R2                                          ; 1041
                             FD70   CF          01   FB 0002C          CALLS   #1, QIODONE                                 ;
                                                     04 00031          RET                                                 ; 1042

; Routine Size:  50 bytes,    Routine Base:  $CODE$ + 06C2

; 1055          1043  1
; 1057          1044  1 ROUTINE CNTRLCAST: NOVALUE =
; 1058          1045  1 !++
; 1059          1046  1 !
; 1060          1047  1 ! Functional Description:
; 1061          1048  1 !       Handle the AST indicating that a control-C was typed on the terminal.
; 1062          1049  1 !
; 1063          1050  1 ! Calling Sequence:
; 1064          1051  1 !       standard
; 1065          1052  1 !
; 1066          1053  1 ! Input Parameters:
; 1067          1054  1 !       none
; 1068          1055  1 !
; 1069          1056  1 ! Implicit Inputs:
; 1070          1057  1 !       none
; 1071          1058  1 !
; 1072          1059  1 ! Output Parameters:
; 1073          1060  1 !       none
; 1074          1061  1 !
; 1075          1062  1 ! Implicit Outputs:
; 1076          1063  1 !       none
; 1077          1064  1 !
; 1078          1065  1 ! Routines Called:
; 1079          1066  1 !       none
; 1080          1067  1 !
; 1081          1068  1 ! Routine Value:
; 1082          1069  1 !       none
; 1083          1070  1 !
; 1084          1071  1 ! Signals:
; 1085          1072  1 !       none
; 1086          1073  1 !
; 1087          1074  1 ! Side Effects:
; 1088          1075  1 !       A message is sent to the host and the control-C AST is enabled.  An
; 1089          1076  1 !       error will cause a $WAKE to be issued to abort the program.
; 1090          1077  1 !
; 1091          1078  1 !--
; 1092          1079  2       BEGIN
; 1093          1080  2       RETSTATUS =
; 1094        P 1081  2       $QIO    (CHAN = .LINKCHAN,      ! TELL HOST
; 1095        P 1082  2               FUNC = IO$_WRITEVBLK,
; 1096        P 1083  2               P1 = CNTRLCMSG,
; 1097          1084  2               P2 = 4);
; 1098          1085  2       QUIT_ON_ERROR;
; 1099          1086  2       RETSTATUS =
; 1100        P 1087  2       $QIO    (CHAN = .CNTRLCHAN,     ! REENABLE IT
; 1101        P 1088  2               FUNC = IO$_SETMODE+IO$M_CTRLCAST,
; 1102          1089  2               P1 = CNTRLCAST);
; 1103          1090  2       QUIT_ON_ERROR;
; 1104          1091  1       END;



                                   000C 00000 CNTRLCAST:
                                                          .WORD   Save R2,R3                              ; 1044
                    53 00000000G  00  9E 00002           MOVAB   SYS$QIO, R3                              ;
                    52 00000000G  00  9E 00009           MOVAB   RETSTATUS, R2                            ;
```

```
                                7E  7C 00010            CLRQ    -(SP)                                  ; 1084
                                7E  7C 00012            CLRQ    -(SP)
                                04  DD 00014            PUSHL   #4
                         0000'  CF  9F 00016            PUSHAB  CNTRLCMSG
                                7E  7C 0001A            CLRQ    -(SP)
                   7E           30  7D 0001C            MOVQ    #48, -(SP)
                   7E 00000000G 00  3C 0001F            MOVZWL  LINKCHAN, -(SP)
                                7E  D4 00026            CLRL    -(SP)
                   63           0C  FB 00028            CALLS   #12, SYS$QIO
                   62           50  D0 0002B            MOVL    R0, RETSTATUS
                   24           62  E9 0002E            BLBC    RETSTATUS, 1$
                                7E  7C 00031            CLRQ    -(SP)                                  ; 1089
                                7E  7C 00033            CLRQ    -(SP)
                                7E  D4 00035            CLRL    -(SP)
                            C6  AF  9F 00037            PUSHAB  CNTRLCAST
                                7E  7C 0003A            CLRQ    -(SP)
                                7E  D4 0003C            CLRL    -(SP)
                   7E     0123  8F  3C 0003E            MOVZWL  #291, -(SP)
                   7E 00000000G 00  3C 00043            MOVZWL  CNTRLCHAN, -(SP)
                                7E  D4 0004A            CLRL    -(SP)
                   63           0C  FB 0004C            CALLS   #12, SYS$QIO
                   62           50  D0 0004F            MOVL    R0, RETSTATUS
                   19           62  E8 00052            BLBS    RETSTATUS, 2$
                                7E  D4 00055 1$:        CLRL    -(SP)
          00000000G  00         01  FB 00057            CALLS   #1, SYS$SETAST
          00000000G  00         01  90 0005E            MOVB    #1, WAKEFLAG
                                7E  7C 00065            CLRQ    -(SP)
          00000000G  00         02  FB 00067            CALLS   #2, SYS$WAKE
                                    04 0006E 2$:        RET                                            ; 1091

; Routine Size:  111 bytes,    Routine Base:  $CODE$ + 06F4
; 1106          1092  1 ROUTINE CNTRLYAST: NOVALUE =
; 1107          1093  1 !++
; 1108          1094  1 !
; 1109          1095  1 ! Functional Description:
; 1110          1096  1 !       Handle the AST indicating that a control-Y was typed on the terminal.
; 1111          1097  1 !
; 1112          1098  1 ! Calling Sequence:
; 1113          1099  1 !       standard
; 1114          1100  1 !
; 1115          1101  1 ! Input Parameters:
; 1116          1102  1 !       none
; 1117          1103  1 !
; 1118          1104  1 ! Implicit Inputs:
; 1119          1105  1 !       none
; 1120          1106  1 !
; 1121          1107  1 ! Output Parameters:
; 1122          1108  1 !       none
; 1123          1109  1 !
; 1124          1110  1 ! Implicit Outputs:
; 1125          1111  1 !       none
; 1126          1112  1 !
; 1127          1113  1 ! Routines Called:
; 1128          1114  1 !       none
; 1129          1115  1 !
; 1130          1116  1 ! Routine Value:
; 1131          1117  1 !       none
; 1132          1118  1 !
; 1133          1119  1 ! Signals:
; 1134          1120  1 !       none
; 1135          1121  1 !
; 1136          1122  1 ! Side Effects:
; 1137          1123  1 !       A $WAKE will be issued to abort the program.
; 1138          1124  1 !
; 1139          1125  1 !--
; 1140          1126  2       BEGIN
; 1141          1127  2       QUIT;
; 1142          1128  1       END;



                                          0000 00000 CNTRLYAST:
                                                          .WORD   Save nothing                                        ; 1092
                                       7E  D4 00002       CLRL    -(SP)                                               ; 1126
                    00000000G  00      01  FB 00004       CALLS   #1, SYS$SETAST                                      ;
                    00000000G  00      01  90 0000B       MOVB    #1, WAKEFLAG                                        ;
                                       7E  7C 00012       CLRQ    -(SP)                                               ;
                    00000000G  00      02  FB 00014       CALLS   #2, SYS$WAKE                                        ;
                                           04 0001B       RET                                                         ; 1128

; Routine Size:  28 bytes,    Routine Base:  $CODE$ + 0763


; 1143          1129  1
```

```
1 ROUTINE CANCEL(BUFFER): NOVALUE =
1 !++
1 !
1 ! Functional Description:
1 !       Cancel I/O's as requested by RSX.
1 !
1 ! Calling Sequence:
1 !       standard
1 !
1 ! Input Parameters:
1 !       BUFFER = address of the link buffere
1 !
1 ! Implicit Inputs:
1 !       IOQUEUE
1 !       CURRENTIO
1 !
1 ! Output Parameters:
1 !       none
1 !
1 ! Implicit Outputs:
1 !       none
1 !
1 ! Routines Called:
1 !       FREEBUF
1 !
1 ! Routine Value:
1 !       none
1 !
1 ! Signals:
1 !       none
1 !
1 ! Side Effects:
1 !       A completion message is sent to the host.
1 !
1 !--
2       BEGIN
2       MAP BUFFER: REF RTP_BUF;
2       LOCAL
2               IOBUF: REF RTP_BUF;
2       IF .BUFFER[RTP_IDN] EQL 255  THEN
3               BEGIN           ! KILL ALL I/O
3               $CANCEL (CHAN = .RDWRTCHAN);    ! CANCEL CURRENT I/O
3               WHILE .IOQUEUE[0] NEQ IOQUEUE DO
4                       BEGIN
4                       REMQUE(.IOQUEUE,IOBUF); ! GET NEXT I/O
4                       FREEBUF(.IOBUF);
3                       END;
3               END
2       ELSE
3               BEGIN           ! KILL ONLY ONE I/O
3               IF .CURRENTIO NEQ 0
3               AND .CURRENTIO[RTP_IDN] EQL .BUFFER[RTP_IDN]  THEN
4                       BEGIN
4                       CURRENTIO = 0;
4                       $CANCEL (CHAN = .RDWRTCHAN);
4                       END
3               ELSE
```

```
; 1202          1187  4                 BEGIN
; 1203          1188  4                 WHILE .IOQUEUE NEQ IOQUEUE DO
; 1204          1189  5                         BEGIN
; 1205          1190  5                         IOBUF = .IOQUEUE;
; 1206          1191  5                         IF .IOBUF[RTP_IDN] EQL .BUFFER[RTP_IDN]  THEN
; 1207          1192  6                                 BEGIN
; 1208          1193  6                                 REMQUE(.IOBUF,IOBUF);
; 1209          1194  6                                 FREEBUF(.IOBUF);
; 1210          1195  5                                 END;
; 1211          1196  4                         END;
; 1212          1197  3                 END;
; 1213          1198  2         END;
; 1214          1199  2 BUFFER[RTP_FLG] = 0;
; 1215        P 1200  2 $QIO    (CHAN = .LINKCHAN,        ! WRITE TO LINK
; 1216        P 1201  2         FUNC = IO$_WRITEVBLK,
; 1217        P 1202  2         IOSB = BUFFER[RTP_IOS],
; 1218        P 1203  2         ASTADR = LINKWRTDONE,
; 1219        P 1204  2         ASTPRM = .BUFFER,
; 1220        P 1205  2         P1 = BUFFER[RTP_FNC],
; 1221          1206  2         P2 = 5);
; 1222          1207  1 END;


                                                        .EXTRN  SYS$CANCEL

                                  007C 00000 CANCEL:    .WORD   Save R2,R3,R4,R5,R6                          ; 1130
              56 00000000G  00    9E 00002              MOVAB   RDWRTCHAN, R6                                ;
              55 00000000G  00    9E 00009              MOVAB   SYS$CANCEL, R5                               ;
              54     0000'  CF    9E 00010              MOVAB   IOQUEUE, R4                                  ;
              52        04  AC    D0 00015              MOVL    BUFFER, R2                                   ; 1169
      FF      8F        14  A2    91 00019              CMPB    20(R2), #255                                 ;
                            1B    12 0001E              BNEQ    2$                                           ;
              7E            66    3C 00020              MOVZWL  RDWRTCHAN, -(SP)                             ; 1171
              65            01    FB 00023              CALLS   #1, SYS$CANCEL                               ;
              50            64    9E 00026 1$:          MOVAB   IOQUEUE, R0                                  ; 1172
              50            64    D1 00029              CMPL    IOQUEUE, R0                                  ;
                            47    13 0002C              BEQL    4$                                           ;
              53        00  B4    0F 0002E              REMQUE  @IOQUEUE, IOBUF                              ; 1174
                            53    DD 00032              PUSHL   IOBUF                                        ; 1175
    F9F5      CF            01    FB 00034              CALLS   #1, FREEBUF                                  ;
                            EB    11 00039              BRB     1$                                           ; 1172
              50        F8  A4    D0 0003B 2$:          MOVL    CURRENTIO, R0                                ; 1180
                            12    13 0003F              BEQL    3$                                           ;
      14      A2        14  A0    91 00041              CMPB    20(R0), 20(R2)                               ; 1181
                            0B    12 00046              BNEQ    3$                                           ;
                        F8  A4    D4 00048              CLRL    CURRENTIO                                    ; 1183
              7E            66    3C 0004B              MOVZWL  RDWRTCHAN, -(SP)                             ; 1184
              65            01    FB 0004E              CALLS   #1, SYS$CANCEL                               ;
                            22    11 00051              BRB     4$                                           ; 1180
              50            64    9E 00053 3$:          MOVAB   IOQUEUE, R0                                  ; 1188
              50            64    D1 00056              CMPL    IOQUEUE, R0                                  ;
                            1A    13 00059              BEQL    4$                                           ;
              53            64    D0 0005B              MOVL    IOQUEUE, IOBUF                               ; 1190
              50        04  AC    D0 0005E              MOVL    BUFFER, R0                                   ; 1191
      14      A0        14  A3    91 00062              CMPB    20(IOBUF), 20(R0)                            ;
                            EA    12 00067              BNEQ    3$                                           ;
```

```
                          53                  63  0F 00069          REMQUE  (IOBUF), IOBUF                             ; 1193
                                              53  DD 0006C          PUSHL   IOBUF                                      ; 1194
                    F9BB  CF                  01  FB 0006E          CALLS   #1, FREEBUF                                ;
                                              DE  11 00073          BRB     3$                                         ; 1188
                          50            04    AC  D0 00075 4$:      MOVL    BUFFER, R0                                 ; 1199
                                        12    A0  94 00079          CLRB    18(R0)                                     ;
                                              7E  7C 0007C          CLRQ    -(SP)                                      ; 1206
                                              7E  7C 0007E          CLRQ    -(SP)                                      ;
                                              05  DD 00080          PUSHL   #5                                         ;
                                        10    A0  9F 00082          PUSHAB  16(R0)                                     ;
                                              50  DD 00085          PUSHL   R0                                         ;
                                      FD63    CF  9F 00087          PUSHAB  LINKWRTDONE                                ;
                                        08    A0  9F 0008B          PUSHAB  8(R0)                                      ;
                                              30  DD 0008E          PUSHL   #48                                        ;
                          7E 00000000G        00  3C 00090          MOVZWL  LINKCHAN, -(SP)                            ;
                                              7E  D4 00097          CLRL    -(SP)                                      ;
               00000000G  00                  0C  FB 00099          CALLS   #12, SYS$QIO                               ;
                                                  04 000A0          RET                                                ; 1207

; Routine Size:  161 bytes,    Routine Base:  $CODE$ + 077F
; 1224          1208  1 ROUTINE MAPMODIFIER(RSXMOD) =
; 1225          1209  1 !++
; 1226          1210  1 !
; 1227          1211  1 ! Functional Description:
; 1228          1212  1 !       Convert RSX function code modifiers to VMS format.
; 1229          1213  1 !
; 1230          1214  1 ! Calling Sequence:
; 1231          1215  1 !       standard
; 1232          1216  1 !
; 1233          1217  1 ! Input Parameters:
; 1234          1218  1 !       RSXMOD = RSX modifiers
; 1235          1219  1 !
; 1236          1220  1 ! Implicit Inputs:
; 1237          1221  1 !       none
; 1238          1222  1 !
; 1239          1223  1 ! Output Parameters:
; 1240          1224  1 !       none
; 1241          1225  1 !
; 1242          1226  1 ! Implicit Outputs:
; 1243          1227  1 !       none
; 1244          1228  1 !
; 1245          1229  1 ! Routines Called:
; 1246          1230  1 !       none
; 1247          1231  1 !
; 1248          1232  1 ! Routine Value:
; 1249          1233  1 !       VMS function code modifier
; 1250          1234  1 !
; 1251          1235  1 ! Signals:
; 1252          1236  1 !       none
; 1253          1237  1 !
; 1254          1238  1 ! Side Effects:
; 1255          1239  1 !       none
; 1256          1240  1 !
; 1257          1241  1 !--
; 1258          1242  2         BEGIN
; 1259          1243  2         LOCAL
; 1260          1244  2                 VMSMOD: ;
; 1261          1245  2         VMSMOD = IO$M_TRMNOECHO;
; 1262          1246  2         IF (.RSXMOD AND RM_RNE) NEQ 0  THEN
; 1263          1247  2                 VMSMOD = .VMSMOD+IO$M_NOECHO;
; 1264          1248  2         RETURN(.VMSMOD);
; 1265          1249  1         END;



                                                  0000 00000 MAPMODIFIER:
                                                                    .WORD    Save nothing                                   : 1208
                               50      1000    8F   3C 00002        MOVZWL   #4096, VMSMOD                                  : 1245
                 04            6C              24   E1 00007        BBC      #36, RSXMOD, 1$                                : 1246
                               50        40    A0   9E 0000B        MOVAB    64(R0), VMSMOD                                 : 1247
                                                    04 0000F 1$:    RET                                                     : 1249

; Routine Size:  16 bytes,    Routine Base:  $CODE$ + 0820
```

```
1 ROUTINE ATTACH(BUFFER): NOVALUE =
1 !++
1 !
1 ! Functional Description:
1 !       Handle the RSX attach and detach functions.
1 !
1 ! Calling Sequence:
1 !       standard
1 !
1 ! Input Parameters:
1 !       BUFFER = address of the link buffer
1 !
1 ! Implicit Inputs:
1 !       CURRENTIO
1 !       UNSOLPEND
1 !
1 ! Output Parameters:
1 !       none
1 !
1 ! Implicit Outputs:
1 !       ATTACHFLAG
1 !
1 ! Routines Called:
1 !       TERMMBXMSG
1 !       FREEBUF
1 !       NEXTIO
1 !
1 ! Routine Value:
1 !       none
1 !
1 ! Signals:
1 !       none
1 !
1 ! Side Effects:
1 !       The request may be queued for later action.
1 !       If the detach reenables unsolicited input, pending data may be read.
1 !
1 !--
2         BEGIN
2         MAP BUFFER: REF RTP_BUF;
2         IF .CURRENTIO EQL 0  THEN
3                 BEGIN
3                 IF .BUFFER[RTP_MOD] NEQ RM_DET  THEN
3                         ATTACHFLAG = 1
3                 ELSE
4                         BEGIN
4                         ATTACHFLAG = 0;
4                         IF (.UNSOLPEND NEQ 0)  OR  (.INDDATA NEQ 0)  THEN
5                                 BEGIN                   ! DATA ALREADY PENDING
5                                 TERMMBXDATA[0] = MSG$_TRMUNSOLIC;
5                                 TERMMBXMSG();
4                                 END;
3                         END;
3                 FREEBUF(.BUFFER);
3                 NEXTIO();               ! CHECK FOR A PENDING I/O
3                 END
2         ELSE
```

```
; 1324          1307  2                 INSQUE(.BUFFER,..IOQUEUE[1]);      ! QUEUE IT FOR LATER
; 1325          1308  1         END;



                                     0004 00000 ATTACH: .WORD    Save R2                                                ; 1250
                  52      0000'   CF   9E 00002         MOVAB    ATTACHFLAG, R2                                         ;
                            08    A2   D5 00007         TSTL     CURRENTIO                                              ; 1290
                                  33   12 0000A         BNEQ     4$                                                     ;
                  50        04    AC   D0 0000C         MOVL     BUFFER, R0                                             ; 1292
           80     8F        11    A0   91 00010         CMPB     17(R0), #128                                           ;
                                  05   13 00015         BEQL     1$                                                     ;
                  62              01   90 00017         MOVB     #1, ATTACHFLAG                                         ; 1293
                                  15   11 0001A         BRB      3$                                                     ;
                                  62   94 0001C 1$:     CLRB     ATTACHFLAG                                             ; 1296
                            02    A2   95 0001E         TSTB     UNSOLPEND                                              ; 1297
                                  05   12 00021         BNEQ     2$                                                     ;
                            0C    A2   D5 00023         TSTL     INDDATA                                                ;
                                  09   13 00026         BEQL     3$                                                     ;
           F4     A2              01   B0 00028 2$:     MOVW     #1, TERMMBXDATA                                        ; 1299
         FD98     CF              00   FB 0002C         CALLS    #0, TERMMBXMSG                                         ; 1300
                            04    AC   DD 00031 3$:     PUSHL    BUFFER                                                 ; 1303
         F944     CF              01   FB 00034         CALLS    #1, FREEBUF                                            ;
        0000V     CF              00   FB 00039         CALLS    #0, NEXTIO                                             ; 1304
                                       04 0003E         RET                                                             ; 1290
           14     B2        04    BC   0E 0003F 4$:     INSQUE   @BUFFER, @IOQUEUE+4                                    ; 1307
                                       04 00044         RET                                                             ; 1308

; Routine Size:  69 bytes,    Routine Base:  $CODE$ + 0830


; 1326          1309  1
```

```
1 ROUTINE READSINGLE(BUFFER): NOVALUE =
1 !++
1 !
1 ! Functional Description:
1 !       Enable and disable RSX single character mode.
1 !
1 ! Calling Sequence:
1 !       standard
1 !
1 ! Input Parameters:
1 !       BUFFER = address of the link buffer
1 !
1 ! Implicit Inputs:
1 !       CURRENTIO
1 !       UNSOLPEND
1 !       SINGLEINPROG
1 !
1 ! Output Parameters:
1 !       none
1 !
1 ! Implicit Outputs:
1 !       SINGLEFLAG
1 !       UNSOLPEND
1 !
1 ! Routines Called:
1 !       TERMMBXMSG
1 !       FREEBUF
1 !
1 ! Routine Value:
1 !       none
1 !
1 ! Signals:
1 !       none
1 !
1 ! Side Effects:
1 !       The request may be queued for later action.
1 !       If data is pending when the mode is enabled, it is read.
1 !
1 !--
2       BEGIN
2       MAP BUFFER: REF RTP_BUF;
2       IF .CURRENTIO EQL 0  THEN
3               BEGIN
3               IF (.BUFFER[RTP_MOD] AND RM_TSC) EQL 0  THEN
4                       BEGIN
4                       SINGLEFLAG = .BUFFER;   ! ENABLE SINGLE CHARACTERS
4                       IF .UNSOLPEND NEQ 0  THEN
4                               TERMMBXMSG();           ! DATA ALREADY PENDING
4                       UNSOLPEND = 0;
4                       END
3               ELSE
4                       BEGIN           ! DISABLE SINGLE CHARACTER MODE
4                       FREEBUF(.BUFFER);       ! OF NO USE
4                       IF .SINGLEINPROG EQL 0  THEN
4                               FREEBUF(.SINGLEFLAG);   ! NOT CURRENTLY IN USE
4                       SINGLEFLAG = 0;
3                       END;
```

```
; 1385          1367  3                  NEXTIO();                  ! IS ANYTHING ELSE QUEUED
; 1386          1368  3                  END
; 1387          1369  2            ELSE
; 1388          1370  2                  INSQUE(.BUFFER,.IOQUEUE[1]);     ! QUEUE IT FOR LATER
; 1389          1371  1            END;



                                             0004 00000 READSINGLE:
                                                                  .WORD    Save R2                                    ; 1310
                         52     0000'   CF   9E 00002             MOVAB    SINGLEFLAG, R2                             ;
                                   04   A2   D5 00007             TSTL     CURRENTIO                                  ; 1351
                                        38   12 0000A             BNEQ     5$                                         ;
                         50        04   AC   D0 0000C             MOVL     BUFFER, R0                                 ; 1353
                                   11   A0   95 00010             TSTB     17(R0)                                     ;
                                        13   19 00013             BLSS     2$                                         ;
                         62        04   AC   D0 00015             MOVL     BUFFER, SINGLEFLAG                         ; 1355
                                   FE   A2   95 00019             TSTB     UNSOLPEND                                  ; 1356
                                        05   13 0001C             BEQL     1$                                         ;
                 FD61    CF             00   FB 0001E             CALLS    #0, TERMMBXMSG                             ; 1357
                                   FE   A2   94 00023 1$:         CLRB     UNSOLPEND                                  ; 1358
                                        16   11 00026             BRB      4$                                         ; 1353
                                   04   AC   DD 00028 2$:         PUSHL    BUFFER                                     ; 1362
                 F908    CF             01   FB 0002B             CALLS    #1, FREEBUF                                ;
                                   FD   A2   95 00030             TSTB     SINGLEINPROG                               ; 1363
                                        07   12 00033             BNEQ     3$                                         ;
                                        62   DD 00035             PUSHL    SINGLEFLAG                                 ; 1364
                 F8FC    CF             01   FB 00037             CALLS    #1, FREEBUF                                ;
                                        62   D4 0003C 3$:         CLRL     SINGLEFLAG                                 ; 1365
                0000V    CF             00   FB 0003E 4$:         CALLS    #0, NEXTIO                                 ; 1367
                                             04 00043             RET                                                 ; 1351
                   10    B2        04   BC   0E 00044 5$:         INSQUE   @BUFFER, @IOQUEUE+4                        ; 1370
                                             04 00049             RET                                                 ; 1371

; Routine Size:  74 bytes,    Routine Base:  $CODE$ + 0875


; 1390          1372  1
; 1392          1373  1 ROUTINE ONECHAR(BUFFER): NOVALUE =
; 1393          1374  1 !++
; 1394          1375  1 !
; 1395          1376  1 ! Functional Description:
; 1396          1377  1 !       Handle the completion of a single character mode read.
; 1397          1378  1 !
; 1398          1379  1 ! Calling Sequence:
; 1399          1380  1 !       standard
; 1400          1381  1 !
; 1401          1382  1 ! Input Parameters:
; 1402          1383  1 !       BUFFER = address of the link buffer
; 1403          1384  1 !
; 1404          1385  1 ! Implicit Inputs:
; 1405          1386  1 !       SINGLEFLAG
; 1406          1387  1 !
; 1407          1388  1 ! Output Parameters:
; 1408          1389  1 !       none
; 1409          1390  1 !
; 1410          1391  1 ! Implicit Outputs:
; 1411          1392  1 !       SINGLEINPROG
; 1412          1393  1 !
; 1413          1394  1 ! Routines Called:
; 1414          1395  1 !       QIODONE
; 1415          1396  1 !       FREEBUF
; 1416          1397  1 !
; 1417          1398  1 ! Routine Value:
; 1418          1399  1 !       none
; 1419          1400  1 !
; 1420          1401  1 ! Signals:
; 1421          1402  1 !       none
; 1422          1403  1 !
; 1423          1404  1 ! Side Effects:
; 1424          1405  1 !       none
; 1425          1406  1 !
; 1426          1407  1 !--
; 1427          1408  2         BEGIN
; 1428          1409  2         LOCAL
; 1429          1410  2                 NEWBUF: REF VECTOR;
; 1430          1411  2         MAP BUFFER: REF VECTOR;
; 1431          1412  2         SINGLEINPROG = 0;
; 1432          1413  2         NEWBUF = GETBUF();      ! GET A NEW BUFFER
; 1433          1414  2         NEWBUF[4] = .BUFFER[4];
; 1434          1415  2         NEWBUF[5] = .BUFFER[5];
; 1435          1416  2         NEWBUF[6] = .BUFFER[6];
; 1436          1417  2         QIODONE(.NEWBUF);
; 1437          1418  2         IF .SINGLEFLAG EQL 0  THEN
; 1438          1419  2                 FREEBUF(.BUFFER);       ! SINGLE CHAR MODE WAS DISABLED
; 1439          1420  1         END;



                                     0004 00000 ONECHAR:.WORD   Save R2                                          ; 1373
                          0000'  CF  94 00002         CLRB    SINGLEINPROG                                     ; 1412
          F8BF   CF              00  FB 00006         CALLS   #0, GETBUF                                       ; 1413
                 52        04    AC  D0 0000B         MOVL    BUFFER, R2                                       ; 1414
                 10     A0        10   A2  7D 0000F          MOVQ    16(R2), 16(NEWBUF)                  :
                 18     A0        18   A2  D0 00014          MOVL    24(R2), 24(NEWBUF)                  : 1416
                                       50  DD 00019          PUSHL   NEWBUF                              : 1417
               FB84     CF             01  FB 0001B          CALLS   #1, QIODONE                         :
                               0000'   CF  D5 00020          TSTL    SINGLEFLAG                          : 1418
                                       07  12 00024          BNEQ    1$                                  :
                                       52  DD 00026          PUSHL   R2                                  : 1419
               F8C1     CF             01  FB 00028          CALLS   #1, FREEBUF                         :
                                           04 0002D 1$:      RET                                         : 1420

; Routine Size:  46 bytes,    Routine Base:  $CODE$ + 08BF
; 1441          1421  1 ROUTINE TERMINATOR(RSXMOD) =
; 1442          1422  1 !++
; 1443          1423  1 !
; 1444          1424  1 ! Functional Description:
; 1445          1425  1 !       Provide the correct terminator mask for an RSX read operation.
; 1446          1426  1 !
; 1447          1427  1 ! Calling Sequence:
; 1448          1428  1 !       standard
; 1449          1429  1 !
; 1450          1430  1 ! Input Parameters:
; 1451          1431  1 !       RSXMOD = RSX function modifiers
; 1452          1432  1 !
; 1453          1433  1 ! Implicit Inputs:
; 1454          1434  1 !       none
; 1455          1435  1 !
; 1456          1436  1 ! Output Parameters:
; 1457          1437  1 !       none
; 1458          1438  1 !
; 1459          1439  1 ! Implicit Outputs:
; 1460          1440  1 !       none
; 1461          1441  1 !
; 1462          1442  1 ! Routines Called:
; 1463          1443  1 !       none
; 1464          1444  1 !
; 1465          1445  1 ! Routine Value:
; 1466          1446  1 !       address of the descriptor for the terminator mask
; 1467          1447  1 !
; 1468          1448  1 ! Signals:
; 1469          1449  1 !       none
; 1470          1450  1 !
; 1471          1451  1 ! Side Effects:
; 1472          1452  1 !       none
; 1473          1453  1 !
; 1474          1454  1 !--
; 1475          1455  2         BEGIN
; 1476          1456  2         IF (.RSXMOD AND RM_RTC) NEQ 0  THEN
; 1477          1457  3                 RETURN(STERMDESC)       ! TERMINATE ON CONTROL CHARACTERS
; 1478          1458  2         ELSE
; 1479          1459  2                 RETURN(NTERMDESC);      ! NORMAL TERMINATORS
; 1480          1460  1         END;



                                                0000 00000 TERMINATOR:
                                                                   .WORD   Save nothing                                  ; 1421
                06          6C            23  E1 00002             BBC     #35, RSXMOD, 1$                               ; 1456
                            50     0000'  CF  9E 00006             MOVAB   STERMDESC, R0                                 ; 1457
                                              04 0000B             RET                                                   ; 1459
                            50     0000'  CF  9E 0000C 1$:         MOVAB   NTERMDESC, R0                                 ;
                                              04 00011             RET                                                   ; 1460

; Routine Size:  18 bytes,    Routine Base:  $CODE$ + 08ED
; 1482           1461  1 ROUTINE UNSUPPORTED(BUFFER): NOVALUE =
; 1483           1462  1 !++
; 1484           1463  1 !
; 1485           1464  1 ! Functional Description:
; 1486           1465  1 !       Return an error message to the host for unsupported functions.
; 1487           1466  1 !
; 1488           1467  1 ! Calling Sequence:
; 1489           1468  1 !       standard
; 1490           1469  1 !
; 1491           1470  1 ! Input Parameters:
; 1492           1471  1 !       BUFFER = address of the link buffer
; 1493           1472  1 !
; 1494           1473  1 ! Implicit Inputs:
; 1495           1474  1 !       none
; 1496           1475  1 !
; 1497           1476  1 ! Output Parameters:
; 1498           1477  1 !       none
; 1499           1478  1 !
; 1500           1479  1 ! Implicit Outputs:
; 1501           1480  1 !       RETSTATUS
; 1502           1481  1 !
; 1503           1482  1 ! Routines Called:
; 1504           1483  1 !       none
; 1505           1484  1 !
; 1506           1485  1 ! Routine Value:
; 1507           1486  1 !       none
; 1508           1487  1 !
; 1509           1488  1 ! Signals:
; 1510           1489  1 !       none
; 1511           1490  1 !
; 1512           1491  1 ! Side Effects:
; 1513           1492  1 !       If there is an error on the write to the link, a $WAKE is issued to
; 1514           1493  1 !       abort the program.
; 1515           1494  1 !
; 1516           1495  1 !--
; 1517           1496  2         BEGIN
; 1518           1497  2         MAP BUFFER: REF RTP_BUF;
; 1519           1498  2         RETSTATUS =
; 1520         P 1499  2         $QIO    (CHAN = .LINKCHAN,      ! WRITE TO LINK
; 1521         P 1500  2                 FUNC = IO$_WRITEVBLK,
; 1522         P 1501  2                 IOSB = BUFFER[RTP_IOS],
; 1523         P 1502  2                 ASTADR = LINKWRTDONE,
; 1524         P 1503  2                 ASTPRM = .BUFFER,
; 1525         P 1504  2                 P1 = BUFFER[RTP_FNC],
; 1526           1505  2                 P2 = 128);
; 1527           1506  2         IF .RETSTATUS EQL SS$_ABORT  THEN
; 1528           1507  2                 RETURN;                 ! Link gone - mailbox msg will tell why
; 1529           1508  2         QUIT_ON_ERROR;
; 1530           1509  1         END;



                                  0000 00000 UNSUPPORTED:
                                                   .WORD   Save nothing                                        ; 1461
                                7E  7C 00002       CLRQ    -(SP)                                               ; 1505
```

```
                            7E  7C 00004           CLRQ    -(SP)                       ;
                7E          80  8F  9A 00006           MOVZBL  #128, -(SP)                 ;
7E        04 AC             10  C1 0000A           ADDL3   #16, BUFFER, -(SP)          ;
                            04  AC  DD 0000F           PUSHL   BUFFER                      ;
                          FC58  CF  9F 00012           PUSHAB  LINKWRTDONE                 ;
7E        04 AC             08  C1 00016           ADDL3   #8, BUFFER, -(SP)           ;
                            30  DD 0001B           PUSHL   #48                         ;
                7E  00000000G  00  3C 0001D           MOVZWL  LINKCHAN, -(SP)             ;
                            7E  D4 00024           CLRL    -(SP)                       ;
   00000000G 00             0C  FB 00026           CALLS   #12, SYS$QIO                ;
   00000000G 00             50  D0 0002D           MOVL    R0, RETSTATUS               ;
             2C             50  D1 00034           CMPL    R0, #44                     ; 1506
                            1C  13 00037           BEQL    1$                          ;
             19             50  E8 00039           BLBS    R0, 1$                      ; 1507
                            7E  D4 0003C           CLRL    -(SP)                       ;
   00000000G 00             01  FB 0003E           CALLS   #1, SYS$SETAST              ;
   00000000G 00             01  90 00045           MOVB    #1, WAKEFLAG                ;
                            7E  7C 0004C           CLRQ    -(SP)                       ;
   00000000G 00             02  FB 0004E           CALLS   #2, SYS$WAKE                ;
                                04 00055 1$:       RET                                 ; 1509

; Routine Size:  86 bytes,    Routine Base:  $CODE$ + 08FF
```

```
1 ROUTINE NEXTIO: NOVALUE =
1 !++
1 !
1 ! Functional Description:
1 !       Perform the next I/O on the queue.
1 !
1 ! Calling Sequence:
1 !       standard
1 !
1 ! Input Parameters:
1 !       none
1 !
1 ! Implicit Inputs:
1 !       IOQUEUE
1 !       CURRENTIO
1 !
1 ! Output Parameters:
1 !       none
1 !
1 ! Implicit Outputs:
1 !       none
1 !
1 ! Routines Called:
1 !       WRITE
1 !       READ
1 !       READPROMPT
1 !       ATTACH
1 !       READSINGLE
1 !       FREEBUF
1 !
1 ! Routine Value:
1 !       none
1 !
1 ! Signals:
1 !       none
1 !
1 ! Side Effects:
1 !       none
1 !
1 !--
2         BEGIN
2         LOCAL
2                 NEWIO: REF RTP_BUF;
2         IF (.IOQUEUE[0] NEQ IOQUEUE) AND (.CURRENTIO EQL 0)  THEN
3                 BEGIN           ! TAKE AN I/O OFF THE QUEUE
3                 REMQUE(.IOQUEUE,NEWIO);
3                 CASE .NEWIO[RTP_FNC] FROM 3 TO 9 OF
3                         SET
3                         [RF_WTD]:               WRITE(.NEWIO);
3                         [RF_RDD]:               READ(.NEWIO);
3                         [RF_WRD]:               READPROMPT(.NEWIO);
3                         [RF_ATT]:               ATTACH(.NEWIO);
3                         [RF_RSC]:               READSINGLE(.NEWIO);
3                         [INRANGE]:              FREEBUF(.NEWIO);
3                         TES;
2                 END;
1         END;
```

```
                                            0004 00000 NEXTIO: .WORD    Save R2                                         ; 1510
                     52        0000'    CF   9E 00002          MOVAB    IOQUEUE, R2                                     ;
                     50                 62   9E 00007          MOVAB    IOQUEUE, R0                                     ; 1553
                     50                 62   D1 0000A          CMPL     IOQUEUE, R0                                     ;
                                        4B   13 0000D          BEQL     8$                                              ;
                                  F8    A2   D5 0000F          TSTL     CURRENTIO                                       ;
                                        46   12 00012          BNEQ     8$                                              ;
                     50           00    B2   0F 00014          REMQUE   @IOQUEUE, NEWIO                                 ; 1555
              06     03           10    A0   8F 00018          CASEB    16(NEWIO), #3, #6                               ; 1556
  0036      001E   0016             000E       0001D 1$:       .WORD    2$-1$,-                                         ;
            0026   0036             002E       00025                    3$-1$,-                                         ;
                                                                        4$-1$,-                                         ;
                                                                        7$-1$,-                                         ;
                                                                        6$-1$,-                                         ;
                                                                        7$-1$,-                                         ;
                                                                        5$-1$                                           ;
                                        50   DD 0002B 2$:      PUSHL    NEWIO                                           ; 1558
                  F915   CF             01   FB 0002D          CALLS    #1, WRITE                                       ;
                                             04 00032          RET                                                      ;
                                        50   DD 00033 3$:      PUSHL    NEWIO                                           ; 1559
                  F97F   CF             01   FB 00035          CALLS    #1, READ                                        ;
                                             04 0003A          RET                                                      ;
                                        50   DD 0003B 4$:      PUSHL    NEWIO                                           ; 1560
                  FA2C   CF             01   FB 0003D          CALLS    #1, READPROMPT                                  ;
                                             04 00042          RET                                                      ;
                                        50   DD 00043 5$:      PUSHL    NEWIO                                           ; 1561
                  FE91   CF             01   FB 00045          CALLS    #1, ATTACH                                      ;
                                             04 0004A          RET                                                      ;
                                        50   DD 0004B 6$:      PUSHL    NEWIO                                           ; 1562
                  FECE   CF             01   FB 0004D          CALLS    #1, READSINGLE                                  ;
                                             04 00052          RET                                                      ;
                                        50   DD 00053 7$:      PUSHL    NEWIO                                           ; 1563
                  F7FE   CF             01   FB 00055          CALLS    #1, FREEBUF                                     ;
                                             04 0005A 8$:      RET                                                      ; 1566

; Routine Size:  91 bytes,    Routine Base:  $CODE$ + 0955


; 1589         1567  1
```

```
  1 ROUTINE LINKMBXMSG: NOVALUE =
  1 !++
  1 !
  1 ! Functional Description:
  1 !       Handle messages received on the link mailbox.
  1 !
  1 ! Calling Sequence:
  1 !       standard
  1 !
  1 ! Input Parameters:
  1 !       none
  1 !
  1 ! Implicit Inputs:
  1 !       none
  1 !
  1 ! Output Parameters:
  1 !       none
  1 !
  1 ! Implicit Outputs:
  1 !       RETSTATUS
  1 !
  1 ! Routines Called:
  1 !       none
  1 !
  1 ! Routine Value:
  1 !       none
  1 !
  1 ! Signals:
  1 !       none
  1 !
  1 ! Side Effects:
  1 !       A new read on the link mailbox may be initiated.
  1 !       A $WAKE may be issued to abort the program in case of a link error.
  1 !
  1 !--
  2         BEGIN
  2         IF (.LINKMAIL[0] EQL MSG$_DISCON)  OR  (.LINKMAIL[0] EQL MSG$_ABORT)  THEN
  3                 BEGIN           ! TIME TO QUIT
  3                 $PUTMSG (MSGVEC = UPLIT(2,REM$_NETDIS,0));
  3                 QUIT;
  3                 END
  3
  2         ELSE
  3                 BEGIN           ! IGNORE IT
  3                 RETSTATUS =
P 3                 $QIO    (CHAN = .MAILCHAN,      ! LINK MAILBOX READ
P 3                          FUNC = IO$_READVBLK,
P 3                          ASTADR = LINKMBXMSG,
P 3                          P1 = LINKMAIL,
  3                          P2 = 40);
  3                 QUIT_ON_ERROR;
  2                 END;
  1         END;


                                                        .PSECT  $PLIT$,NOWRT,NOEXE,2
```

```
                                 00000002  00044 P.AAG:   .LONG    2
                                 00000000G 00048          .ADDRESS REM$_NETDIS
                                 00000000  0004C          .LONG    0

                                                          .EXTRN   SYS$PUTMSG

                                                          .PSECT   $CODE$,NOWRT,2

                                      000C 00000 LINKMBXMSG:
                                                          .WORD    Save R2,R3                        ; 1568
                 53      0000'   CF   9E 00002            MOVAB    LINKMAIL, R3
                 52 00000000G    00   9E 00007            MOVAB    RETSTATUS, R2
                 33              63   91 0000E            CMPB     LINKMAIL, #51                     ; 1604
                                 05   13 00011            BEQL     1$
                 30              63   91 00013            CMPB     LINKMAIL, #48
                                 11   12 00016            BNEQ     2$
                                 7E   7C 00018 1$:        CLRQ     -(SP)                             ; 1606
                                 7E   D4 0001A            CLRL     -(SP)
                         0000'   CF   9F 0001C            PUSHAB   P.AAG
      00000000G  00              04   FB 00020            CALLS    #4, SYS$PUTMSG
                                 26   11 00027            BRB      3$
                                 7E   7C 00029 2$:        CLRQ     -(SP)                             ; 1617
                                 7E   7C 0002B            CLRQ     -(SP)
                                 28   DD 0002D            PUSHL    #40
                                 53   DD 0002F            PUSHL    R3
                                 7E   D4 00031            CLRL     -(SP)
                            CA   AF   9F 00033            PUSHAB   LINKMBXMSG
                 7E              31   7D 00036            MOVQ     #49, -(SP)
                 7E 00000000G    00   3C 00039            MOVZWL   MAILCHAN, -(SP)
                                 7E   D4 00040            CLRL     -(SP)
      00000000G  00              0C   FB 00042            CALLS    #12, SYS$QIO
                 62              50   D0 00049            MOVL     R0, RETSTATUS
                 19              62   E8 0004C            BLBS     RETSTATUS, 4$
                                 7E   D4 0004F 3$:        CLRL     -(SP)
      00000000G  00              01   FB 00051            CALLS    #1, SYS$SETAST
      00000000G  00              01   90 00058            MOVB     #1, WAKEFLAG
                                 7E   7C 0005F            CLRQ     -(SP)
      00000000G  00              02   FB 00061            CALLS    #2, SYS$WAKE
                                      04 00068 4$:        RET                                        ; 1620

; Routine Size:  105 bytes,    Routine Base:  $CODE$ + 09B0
```

```
1 ROUTINE INDREAD =
1 !++
1 !
1 ! Functional Description:
1 !       Read a record from an indirect command file.
1 !
1 !
1 ! Calling Sequence:
1 !       standard
1 !
1 ! Input Parameters:
1 !       none
1 !
1 ! Implicit inputs
1 !       INDDATA
1 !       INDFLAG
1 !       SYSINRAB
1 !       SYSINFAB
1 !
1 ! Output Parameters:
1 !       none
1 !
1 ! Implicit Outputs:
1 !       SYSINRAB
1 !
1 ! Routines Called:
1 !       $GET
1 !       $CLOSE
1 !       FREEBUF
1 !
1 ! Routine Value:
1 !       Status of the $GET
1 !
1 ! Signals:
1 !       none
1 !
1 ! Side Effects:
1 !       If an EOF is read, the indirect command file is closed.
1 !
1 !--
2       BEGIN
2       RETSTATUS =
2       $GET (RAB = SYSINRAB);                  ! READ A RECORD
2       IF .RETSTATUS EQL RMS$_EOF   THEN
3               BEGIN                           ! END OF FILE
3               $CLOSE (FAB = SYSINFAB);                ! CLOSE THE COMMAND FILE
3               FREEBUF(.INDDATA);                      ! GET RID OF THE BUFFER
3               INDDATA = 0;                            ! NO MORE DATA
3               INDFLAG = 0;                            ! NO MORE FILE
3               END
2       ELSE
3               BEGIN
3               IF (.RETSTATUS AND 1) EQL 0  THEN  RETURN .RETSTATUS;   ! ERROR
3               (.INDDATA+26+.SYSINRAB[RAB$W_RSZ])<0,8> = %X'0D';      ! ADD TERMINATOR
3               INDDATA[RTP_IOC] = .SYSINRAB[RAB$W_RSZ];              ! RECORD SIZE
3               INDDATA[RTP_IOS] = .RETSTATUS;                        ! STATUS FROM THE $GET
2               END;
```

```
; 1702          1678  2        RETURN .RETSTATUS;
; 1703          1679  1        END;



                                                            .EXTRN   SYS$GET, SYS$CLOSE

                                      001C 00000 INDREAD:.WORD    Save R2,R3,R4                       ; 1621
                    54      0000'  CF   9E 00002          MOVAB    INDDATA, R4                         ;
                    53 00000000G   00   9E 00007          MOVAB    RETSTATUS, R3                       ;
                       00000000G   00   9F 0000E          PUSHAB   SYSINRAB                            ; 1663
           00000000G   00          01   FB 00014          CALLS    #1, SYS$GET                         ;
                       63          50   D0 0001B          MOVL     R0, RETSTATUS                       ;
                       52          63   D0 0001E          MOVL     RETSTATUS, R2                       ; 1664
           0001827A    8F          52   D1 00021          CMPL     R2, #98938                          ;
                                   1E   12 00028          BNEQ     1$                                  ;
                       00000000G   00   9F 0002A          PUSHAB   SYSINFAB                            ; 1666
           00000000G   00          01   FB 00030          CALLS    #1, SYS$CLOSE                       ;
                                   64   DD 00037          PUSHL    INDDATA                             ; 1667
                F756   CF          01   FB 00039          CALLS    #1, FREEBUF                         ;
                                   64   D4 0003E          CLRL     INDDATA                             ; 1668
                       00000000G   00   94 00040          CLRB     INDFLAG                             ; 1669
                                   1E   11 00046          BRB      3$                                  ; 1664
                       04          52   E8 00048 1$:      BLBS     R2, 2$                              ; 1673
                       50          52   D0 0004B          MOVL     R2, R0                              ;
                                        04 0004E          RET                                          ;
                       50          64   D0 0004F 2$:      MOVL     INDDATA, R0                         ; 1674
                       51 00000000G   00   3C 00052          MOVZWL   SYSINRAB+34, R1                     ;
                  1A A140          0D   90 00059          MOVB     #13, 26(R1)[R0]                     ;
                  0A   A0          51   B0 0005E          MOVW     R1, 10(R0)                          ; 1675
                  08   A0          52   B0 00062          MOVW     R2, 8(R0)                           ; 1676
                       50          63   DJ 00066 3$:      MOVL     RETSTATUS, R0                       ; 1678
                                        04 00069          RET                                          ; 1679

; Routine Size:  106 bytes,    Routine Base:  $CODE$ + 0A19
```

```
  1 ROUTINE GETTERMCHAR(BUFFER): NOVALUE =
  1 !++
  1 !
  1 ! Functional Description:
  1 !       Return the terminal characteristics
  1 !
  1 ! Calling Sequence:
  1 !       standard
  1 !
  1 ! Input Parameters:
  1 !       BUFFER = address of buffer from link
  1 !
  1 ! Implicit Inputs:
  1 !       none
  1 !
  1 ! Output Parameters:
  1 !       none
  1 !
  1 ! Implicit Outputs:
  1 !       none
  1 !
  1 ! Routines Called:
  1 !       none
  1 !
  1 ! Routine Value:
  1 !       none
  1 !
  1 ! Signals:
  1 !       none
  1 !
  1 ! Side Effects:
  1 !       none
  1 !
  1 !--
  2         BEGIN
  2         LOCAL
  2                 CHARPTR : REF VECTOR[,BYTE],
  2                 CHARBUF : VECTOR[3];
  2         MAP
  2                 BUFFER : REF RTP_BUF;
  2         BIND
  2                 TERMTYPE = CHARBUF+1 : BYTE,
  2                 TERMWIDTH = CHARBUF+2 : WORD,
  2                 TERMCHAR = CHARBUF[1] : BLOCK[,BYTE],
  2                 TERMLENGTH = CHARBUF[1]+3 : BYTE,
  2                 TERMCHAR2 = CHARBUF[3] : BLOCK[,BYTE];
  2
  2         RETSTATUS =
P 2         $QIOW   (CHAN = .CNTRLCHAN,
P 2                  FUNC = IO$_SENSEMODE,
P 2                  P1 = CHARBUF,
  2                  P2 = 12);
  2         QUIT_ON_ERROR;
  2         CHARPTR = BUFFER[RTP_DAT];        ! POINT TO THE CHARACTERISTICS LIST
  2         UNTIL .CHARPTR[0] EQL 0
  2                 DO
  3                 BEGIN
```

```
; 1762          1737  3                   CASE .CHARPTR[0] FROM 0 TO RC_MAX OF
; 1763          1738  3                       SET
; 1764          1739  3                       [RC_MHT]:
; 1765          1740  3                           CHARPTR[1] = .TERMCHAR[TT$V_MECHTAB];
; 1766          1741  3                       [RC_NEC]:
; 1767          1742  3                           CHARPTR[1] = .TERMCHAR[TT$V_NOECHO];
; 1768          1743  3                       [RC_TTP]:
; 1769          1744  3                           SELECTONE .TERMTYPE OF
; 1770          1745  3                               SET
; 1771          1746  3                               [DT$_VT100]:
; 1772          1747  3                                   CHARPTR[1] = 13;
; 1773          1748  3                               [DT$_VT52]:
; 1774          1749  3                                   CHARPTR[1] = 9;
; 1775          1750  3                               [OTHERWISE]: ;
; 1776          1751  3                               TES;
; 1777          1752  3                       [RC_SCP]:
; 1778          1753  3                           CHARPTR[1] = .TERMCHAR[TT$V_SCOPE];
; 1779          1754  3                       [RC_BIN]:
; 1780          1755  3                           CHARPTR[1] = .TERMCHAR[TT$V_PASSALL];
; 1781          1756  3                       [RC_TPL]:
; 1782          1757  3                           CHARPTR[1] = .TERMLENGTH;
; 1783          1758  3                       [INRANGE]: ;
; 1784          1759  3                       [OUTRANGE]: ;
; 1785          1760  3                       TES;
; 1786          1761  3                   CHARPTR = .CHARPTR + 2;
; 1787          1762  2                   END;
; 1788          1763  2               BUFFER[RTP_STS] = RS_SFC;               ! GOOD STATUS
; 1789          1764  2               RETSTATUS =
; 1790        P 1765  2               $QIO    (CHAN = .LINKCHAN,              ! WRITE TO LINK
; 1791        P 1766  2                        FUNC = IO$_WRITEVBLK,
; 1792        P 1767  2                        IOSB = BUFFER[RTP_IOS],
; 1793        P 1768  2                        ASTADR = LINKWRTDONE,
; 1794        P 1769  2                        ASTPRM = .BUFFER,
; 1795        P 1770  2                        P1 = BUFFER[RTP_FNC],
; 1796          1771  2                        P2 = (.CHARPTR + 2 - BUFFER[RTP_FNC]));
; 1797          1772  2               IF .RETSTATUS EQL SS$_ABORT  THEN
; 1798          1773  2                   RETURN;                             ! LINK GONE - MAILBOX MESSAGE WILL TELL WHY
; 1799          1774  2               QUIT_ON_ERROR;
; 1800          1775  1               END;



                                                  000C 00000 GETTERMCHAR:
                                                                           .WORD    Save R2,R3                                 ; 1680
                       53 00000000G    00   9E 00002             MOVAB    RETSTATUS, R3                              ;
                       5E              0C   C2 00009             SUBL2    #12, SP                                    ;
                                       7E   7C 0000C             CLRQ     -(SP)                                      ; 1731
                                       7E   7C 0000E             CLRQ     -(SP)                                      ;
                                       0C   DD 00010             PUSHL    #12                                        ;
                               14      AE   9F 00012             PUSHAB   CHARBUF                                    ;
                                       7E   7C 00015             CLRQ     -(SP)                                      ;
                       7E              27   7D 00017             MOVQ     #39, -(SP)                                 ;
                       7E 00000000G    00   3C 0001A             MOVZWL   CNTRLCHAN, -(SP)                           ;
                                       7E   D4 00021             CLRL     -(SP)                                      ;
           00000000G  00               0C   FB 00023             CALLS    #12, SYS$QIOW                              ;
```

```
                             63           50 D0 0002A        MOVL    R0, RETSTATUS                          ;
                             03           63 E8 0002D        BLBS    RETSTATUS, 1$                          ;
                                        00D4 31 00030        BRW     15$                                    ;
                             51      04   AC D0 00033 1$:    MOVL    BUFFER, R1                             ; 1733
                             50      1A   A1 9E 00037        MOVAB   26(R1), CHARPTR                        ;
                                          60 95 0003B 2$:    TSTB    (CHARPTR)                              ; 1734
                                          03 12 0003D        BNEQ    3$                                     ;
                                        008B 31 0003F        BRW     14$                                    ;
                    1C       00           60 8F 00042 3$:    CASEB   (CHARPTR), #0, #28                     ; 1737
  0081            0081     0081         0081    00046 4$:    .WORD   13$-4$,-                               ;
  0081            0081     0081         0081    0004E                13$-4$,-                               ;
  0081            0081     0081         0081    00056                13$-4$,-                               ;
  0081            0081     0081         0081    0005E                13$-4$,-                               ;
  0044            003C     0081         0081    00066                13$-4$,-                               ;
  0068            004C     0081         0081    0006E                13$-4$,-                               ;
  0081            0081     0081         0070    00076                13$-4$,-                               ;
                                        007C    0007E                13$-4$,-                               ;
                                                                     13$-4$,-                               ;
                                                                     13$-4$,-                               ;
                                                                     13$-4$,-                               ;
                                                                     13$-4$,-                               ;
                                                                     13$-4$,-                               ;
                                                                     13$-4$,-                               ;
                                                                     13$-4$,-                               ;
                                                                     13$-4$,-                               ;
                                                                     13$-4$,-                               ;
                                                                     13$-4$,-                               ;
                                                                     5$-4$,-                                ;
                                                                     6$-4$,-                                ;
                                                                     13$-4$,-                               ;
                                                                     13$-4$,-                               ;
                                                                     7$-4$,-                                ;
                                                                     9$-4$,-                                ;
                                                                     10$-4$,-                               ;
                                                                     13$-4$,-                               ;
                                                                     13$-4$,-                               ;
                                                                     13$-4$,-                               ;
                                                                     12$-4$                                 ;
                                          45 11 00080        BRB     13$                                    ;
    52        05    AE       01           00 EF 00082 5$:    EXTZV   #0, #1, TERMCHAR+1, R2                 ; 1740
                                          32 11 00088        BRB     11$                                    ;
    52        04    AE       01           01 EF 0008A 6$:    EXTZV   #1, #1, TERMCHAR, R2                   ; 1742
                                          2A 11 00090        BRB     11$                                    ;
                             52      01   AE 9A 00092 7$:    MOVZBL  TERMTYPE, R2                           ; 1744
                       60    8F           52 91 00096        CMPB    R2, #96                                ; 1746
                                          06 12 0009A        BNEQ    8$                                     ;
                       01    A0           0D 90 0009C        MOVB    #13, 1(CHARPTR)                        ; 1747
                                          25 11 000A0        BRB     13$                                    ;
                       40    8F           52 91 000A2 8$:    CMPB    R2, #64                                ; 1748
                                          1F 12 000A6        BNEQ    13$                                    ;
                       01    A0           09 90 000A8        MOVB    #9, 1(CHARPTR)                         ; 1749
                                          19 11 000AC        BRB     13$                                    ;
    52        05    AE       01           04 EF 000AE 9$:    EXTZV   #4, #1, TERMCHAR+1, R2                 ; 1753
                                          06 11 000B4        BRB     11$                                    ;
    52        04    AE       01           00 EF 000B6 10$:   EXTZV   #0, #1, TERMCHAR, R2                   ; 1755
                       01    A0           52 90 000BC 11$:   MOVB    R2, 1(CHARPTR)                         ;
                                          05 11 000C0        BRB     13$                                    ;
                       01  A0        07  AE  90 000C2 12$:    MOVB    TERMLENGTH, 1(CHARPTR)                            ; 1757
                           50            02  C0 000C7 13$:    ADDL2   #2, CHARPTR                                       ; 1761
                                       FF6E  31 000CA         BRW     2$                                                ; 1734
                                 13      A1  94 000CD 14$:    CLRB    19(R1)                                            ; 1763
                                         7E  7C 000D0         CLRQ    -(SP)                                             ; 1771
                                         7E  7C 000D2         CLRQ    -(SP)                                             ;
                           52    10      A1  9E 000D4         MOVAB   16(R1), R2                                        ;
                           50            52  C2 000D8         SUBL2   R2, R0                                            ;
                                 02      A0  9F 000DB         PUSHAB  2(R0)                                             ;
                                 10      A1  9F 000DE         PUSHAB  16(R1)                                            ;
                                         51  DD 000E1         PUSHL   R1                                                ;
                               FA03      CF  9F 000E3         PUSHAB  LINKWRTDONE                                       ;
                                 08      A1  9F 000E7         PUSHAB  8(R1)                                             ;
                                         30  DD 000EA         PUSHL   #48                                               ;
                        7E 00000000G     00  3C 000EC         MOVZWL  LINKCHAN, -(SP)                                   ;
                                         7E  D4 000F3         CLRL    -(SP)                                             ;
                00000000G  00            0C  FB 000F5         CALLS   #12, SYS$QIO                                      ;
                           63            50  D0 000FC         MOVL    R0, RETSTATUS                                     ;
                           2C            50  D1 000FF         CMPL    R0, #44                                           ; 1772
                                         1C  13 00102         BEQL    16$                                               ;
                           19            50  E8 00104         BLBS    R0, 16$                                           ; 1773
                                         7E  D4 00107 15$:    CLRL    -(SP)                                             ;
                00000000G  00            01  FB 00109         CALLS   #1, SYS$SETAST                                    ;
                00000000G  00            01  90 00110         MOVB    #1, WAKEFLAG                                      ;
                                         7E  7C 00117         CLRQ    -(SP)                                             ;
                00000000G  00            02  FB 00119         CALLS   #2, SYS$WAKE                                      ;
                                             04 00120 16$:    RET                                                       ; 1775

; Routine Size:  289 bytes,    Routine Base:  $CODE$ + 0A83


; 1801           1776  1
; 1802           1777  1
; 1803           1778  1        END
; 1804           1779  0        ELUDOM




;                               PSECT SUMMARY
;
;       Name                  Bytes                       Attributes
;
;  $OWN$                        164  NOVEC,  WRT,  RD ,NOEXE,NOSHR,  LCL,  REL,  CON,NOPIC,ALIGN(2)
;  $PLIT$                        80  NOVEC,NOWRT,  RD ,NOEXE,NOSHR,  LCL,  REL,  CON,NOPIC,ALIGN(2)
;  PROTOTBL                       6  NOVEC,  WRT,  RD ,NOEXE,NOSHR,  LCL,  REL,  CON,NOPIC,ALIGN(0)
;  $CODE$                      2980  NOVEC,NOWRT,  RD ,  EXE,NOSHR,  LCL,  REL,  CON,NOPIC,ALIGN(2)


;                         Library Statistics
;
;                                    -------- Symbols --------      Pages      Processing
;       File                         Total    Loaded   Percent      Mapped     Time
```

```
;
;   _$255$DUA28:[SYSLIB]LIB.L32;1               18619        45         0       1000            00:01.4
;   _$255$DUA28:[SYSLIB]CLIMAC.L32;1               14         2        14          9            00:00.0




;                                          COMMAND QUALIFIERS

;       BLISS/CHECK=(FIELD,INITIAL,OPTIMIZE)/LIS=LIS$:RSXRT/OBJ=OBJ$:RSXRT MSRC$:RSXRT/UPDATE=(ENH$:RSXRT)

; Size:          2980 code + 250 data bytes
; Run Time:         00:37.4
; Elapsed Time:     02:35.6
; Lines/CPU Min:     2850
; Lexemes/CPU-Min: 36583
; Memory Used:  222 pages
; Compilation Complete
```

0334 AH-BT13A-SE
VAX/VMS V4.0

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